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PROSTATECTOMY UNDER LOCAL ANESTHESIA

ARTHUR E. HERTZLER, M.D.

KANSAS CITY, MO.

Prostatism presents one of the most frequent dilemmas in the choice of an anesthetic. When the patient is in good condition, a general anesthetic may be administered with impunity; but in those conditions in which the bladder has long been infected, urinary stasis and pyelitis are present with an abundant urine of low specific gravity, and the administration of a general anesthetic presents a hazardous extra burden to the patient. It is in such cases that the use of a local anesthetic, and particularly local anesthesia and the two stage operation, make their strongest appeal.

It must be insisted at the outset that in order to spare the patient, the local anesthesia must be all that the word implies. To cause the patient pain is to produce a shock greater than that caused by a general anesthetic. No method can be said to be acceptable unless it is effective in all cases. When a method fails in a certain percentage of cases, requiring a general anesthetic for the completion of the operation, it cannot lay claim as a method of election. When it becomes necesary to shift from local to general anesthesia, there is very apt to be a period before the abandonment of the attempts at local anesthesia, before the general anesthetic is resorted to, when the patient is being caused pain. It has been my experience that it is just these patients who bear such a transition badly.

Fig. 1.—Direction of the needle in sacral blocking.

For this reason, in my recent book[1] on local anesthesia, I recommended prostatectomy with local anesthesia with great reserve because of the experience that unless the operator had learned his own technical limitations by an extensive experience the patient was apt to be done incalculable harm. Since the manuscript left my hands a year and a half ago, I have been working out a combined technic which should be successful in the hands of those of moderate experience in the use of local anesthesia.

The easiest operation to perform under local anesthesia is the suprapubic one. The perineal route requires the use of a greater amount of the local anesthetic, but the chief objection in my hands has been that quinin produces an extensive infiltration in the periprostatic tissue, and novocain-epinephrin produces an anemia during operation which obscures important sources of hemorrhage. The vessels which do not bleed during the operation, and hence are not ligated, may do so after the patient is returned to bed.

The operation of election, viewed from my experience, is performed by a combination of sacral blocking and direct prostatic infiltration through a suprapubic wound made at the time of operation, or as a preliminary operation some days before.

The reason that sacral anesthesia cannot be relied on as the sole means of anesthesia is its uncertainty. Even in the hands of the past masters of the art (Läwen, Schlimpert and Schneider), failure occurs in about 10 per cent. of cases. A method attended by such a percentage of failures must be looked on as unsatisfactory.

Läwen recommended the use of a 1.5 or 2 per cent. solution of novocain-epinephrin. As stated in my book, I have found a larger amount of a weaker solution more effective. Lewis[2] has recently confirmed this experience. The use of 60 c.c. of a 0.5 per cent. solution will give a relative anesthesia when injected into the sacral canal. This introduces about 5 grains of the drug into the system. Though this dosage will not certainly completely anesthetize the bladder and prostate, it will most certainly so obtund these parts that they will be insensitive to the traction caused in the manipulations of the operation. This is all that is required, for the injection of the prostate through the suprapubic incision will anesthetize the field of operation with certainty. When one starts in to do an operation under local anesthesia, he should possess a repertoire sufficient to meet all contingencies.

It is unfortunate that the designation "sacral anesthesia" to indicate the introduction of an anesthetic solution into the sacral canal is unsatisfactory to recent American authors. The synonym advanced, "caudal anesthesia," is less expressive than the term established by usage, and is confusing, for it may suggest injection into the caudal appendage by our

1. Hertzler, A. E.: Surgical Operations with Local Anesthesia, Ed. 2, New York, Surgery Publishing Co., 1916.

2. Lewis: Surg., Gynec. and Obst., 1916, xxii, 262.

simian ancestors, and it is only the learned who will remember that it is the cauda equina which represents the terminal filaments of the spinal cord which reach this region and to which our attempts at anesthesia are directed. So far as the technic of the method goes, it is the sacrum which the operator must keep in mind, and it is the sacral nerves which are anesthetized. It would seem, therefore, that the introduction of the new term simply muddies the water.

The technic which is most certain to give results is as follows: Sixty c.c. of a 0.5 per cent. novocain solution containing 10 minims of epinephrin, or from 60 to 90 c.c. of a 0.6 per cent. quinin and urea hydrochlorid solution, are introduced into the sacral canal. In making the sacral injection the classic method is employed as described in my book (Fig. 1). The fear of introducing the needle into the spinal dura is much exaggerated. It extends to within from 6 to 9 cm. of the hiatus. I doubt if the canal could be punctured with a straight needle if the attempt were made with deliberation. At any rate the puncture can be easily determined should this accident occur. When the needle is passed upward, if the syringe is attached and the piston pulled out sufficiently to create a vacuum, the spinal fluid would most certainly appear in the syringe. In hundreds of injections I have never yet entered the dura. The same method will detect whether or not the needle has penetrated a vein. With the syringe so attached such an accident will be much more certainly detected than if the intravascular pressure is depended on to force the blood out of the needle. The needle should be passed at least 7 cm. (3 inches) and the fluid deposited. As the needle is withdrawn, some of it may be deposited in the lower portion of the canal. The chief elements of success lie in passing the needle high enough into the canal, and the use of sufficient volume of fluid.

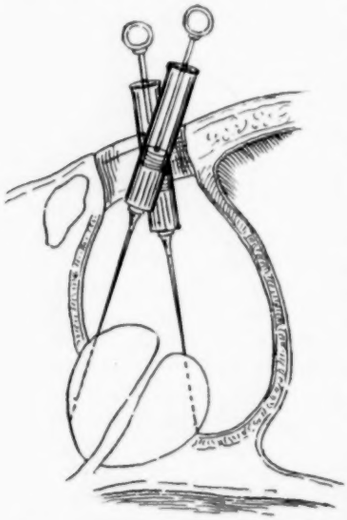

Fig. 3.—The needle passes to the prostatic capsule in as many places as possible.

After the infiltration has been made, the patient is turned on his back until the anesthetic has had time to act. This may require from fifteen to thirty minutes.

While the operator is waiting for the sacral anesthesia to act, he may occupy the time by making the suprapubic incision and infiltrating the prostate through the bladder.

The suprapubic incision may be made after infiltration with a 0.5 per cent. novocain solution or with a 1 per cent. quinin and urea hydrochlorid solution. The technic is already generally understood, and need not be repeated here.

For exposing the prostate through the suprapubic incision, I have devised a special retractor (Fig. 2), which permits a complete exposure of the prostate and an inspection of the entire interior of the bladder. This retractor was originally produced to facilitate the performance of my perineal operation with immediate closure of the wound, but I have found that it works ideally in the suprapubic incision.

Fig. 2. — Prostate retractor, used with both perineal and suprapubic prostatectomy.

The bladder having been opened, the prostate is inspected and a novocain-epinephrin solution injected about the periphery of the prostate (Fig. 3), and into the deep portion of the prostatic urethra at the point where the pendulous portion begins (Fig. 4). If any portion escapes complete anesthesia, this is the place.

After the lapse of ten or fifteen minutes more, the enucleation of the prostate may be begun by any technic the operator may prefer. A good exposure may be obtained so that sharp dissection may be employed at the beginning, or the entire operation may be done with the finger alone. After the finger enucleation is begun, it is unnecessary to use the retractor; in fact, it is in the way, as its presence is unpleasant to the operator's knuckles. If the field of operation is to be inspected after the enucleation has been completed, the retractor may be reintroduced.

If the suprapubic drainage is done some days before the enucleation of the prostate is to be undertaken, quinin and urea hydrochlorid is preferable to novocain-epinephrin, for if the former drug is used, the wound will usually be found sufficiently obtunded at the second operation to permit of the necessary manipulations without a reinfiltration of the abdominal wall and bladder about the site of drainage.

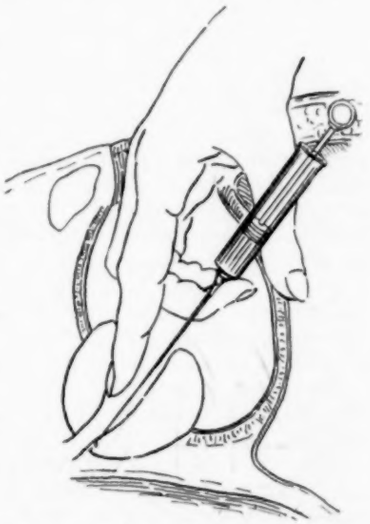

Fig. 4.—Under guidance of the index finger, the lower tip of the prostate is injected.

If a preliminary suprapubic drainage has been done and the opening is not large enough to permit infiltration of the prostate by touch, and subsequent enucleation of the prostate, a renewed infiltration of the bladder wall will be necessary. Otherwise the technic is the same as in the one stage operation.

Generally speaking, it is easier to complete the operation at the time the suprapubic opening is made. After suprapubic drainage has gone on for some days,

the bladder collapses against the prostate, which makes the manipulations more difficult than when the bladder has just recently been drained of its retained contents and is still in a state of comparative paralysis.

When the operation is done in this way, all that is demanded of the sacral anesthetic is that the lifting of the prostate with the attendant traction on the paraprostatic tissues shall be possible without pain. Complete anesthesia of the sacral plexus, therefore, is not necessary. The actual sensation from the field of operation is blocked with certainty by the prostatic infiltration made through the suprapubic wound. When it is done in this manner, the operator always has it in his power to extend the anesthesia in any direction in which he may find it deficient.

The only untoward effect I have ever noted in sacral anesthesia is the temporary anesthetization of the sciatic nerves. For any operation which requires a subsequent recumbent attitude, this is inconsequential. It is only in cystoscopy when the patient desires to go about his business at once that such results are embarrassing. I have noted this condition only after novocain. Since the effect of this drug disappears in a few hours, the disability can never be of consequence. After quinin, numbness is sometimes complained of; but I have never seen paralysis sufficient to interfere with locomotion.

Quinin and urea hydrochlorid may be used with satisfaction in all stages of this operation. Since novocain is no longer on the market, operators may be compelled to learn the quinin technic.

The plan described above enables the operator to approach the enucleation of the prostate with the certainty that the patient will not be caused pain and that a resort to general anesthesia will most certainly not be required.

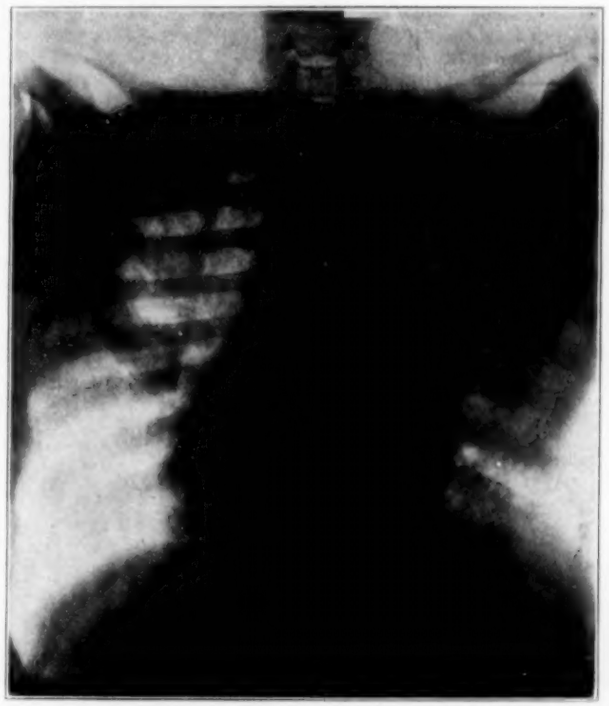

Fig. 1.—Roentgenogram showing extensive pulmonary involvement.

Infection in Typhoid.—Contact infection is the most common mode in the distribution of typhoid. Different students of epidemiology in widely distant lands agree in this and even go so far as to place practically the same estimate on the number of cases originating in this manner. About 60 per cent. of all cases of typhoid are believed to be due to contact infection. The board of medical officers in 1898 placed the percentage of contact cases at 62.80, while Drigalski gives it for Germany as 64.7. These conclusions seem to have been reached quite independently, inasmuch as the German makes no mention of the American studies which were conducted nine years before his. Formerly, it was supposed that typhoid is mostly water-borne; the board of officers began their investigations possessed fully of this view, but their studies convinced them that this is an error and first furnished indisputable evidence that contact is the most important factor in the distribution of typhoid.—Vaughan.

CASE OF COCCIDIOIDAL GRANULOMA*

SAMUEL T. LIPSITZ, M.D.
G. W. LAWSON, M.D.
AND
E. M. FESSENDEN, M.D.
ST. LOUIS

The following case is unusual and interesting in that it adds some features to the data of a disease which may still be considered rare. As far as we have learned, it is the first reported case observed in the state of Missouri. It is one of not more than three cases which did not originate in the San Joaquin Valley, Calif. Other features, such as the evident symmetrical location of the lesions in the muscles, the continuous fever, and the unusually high leukocyte count, are of especial interest.

In all, about forty cases of coccidioidal granuloma have been reported in the literature. Dickson[1] states that thirty-five of these patients have been residents of California; three have visited the state. This is the third instance, so far as we know, in which the patient has never been in California. The first case came under the observation of Posadas in Buenos Aires, and was described by Wernicke[2] in 1891 and later discussed by Posadas[3] in 1900.

The true nature of the organism was made known by Ophüls[4] and Wolbach,[5] who demonstrated that this is not a protozoon disease but is due to a yeast organism closely related to the blastomyces. Since that time numerous papers on this subject have appeared, most of them in the nature of clinical reports.

CASE REPORT

History.—N. T., negro, man, aged 28, single, sleeping car porter, entered the hospital, July 19, 1915. The patient was able to walk when he entered the hospital. A tentative diagnosis of early pulmonary tuberculosis was made. He complained of a cough, loss of weight, and general weakness.

The patient's family history was negative. He was born in Kentucky and lived there until the age of 6, when his family moved to Tennessee. Later he lived in Cairo, Ill. He moved to St. Louis in 1909. Up to this time he worked as a farm hand and as a hotel porter. Since 1909, he had been a porter on the Missouri Pacific Railroad, running

* From the Service of the Department of Internal Medicine of the St. Louis University, School of Medicine, St. Louis City Hospital.

1. Dickson, E. C.: Oidiomycosis in California, with Especial Reference to Coccidioidal Granuloma, Arch. Int. Med., December, 1915, p. 1028.
2. Wernicke: Jour. de microg., 1891, xv, 14; Centralbl. f. Bakteriol., 1892, xii, 861.
3. Posadas: Rev. de chir., 1900, xxi, 277.
4. Ophüls, W.: Further Observations on a Pathogenic Mold, Jour. Exper. Med., 1904, vi, 443.
5. Wolbach, S. B.: Notes from the Life-Cycle of the Organism of Dermatitis Coccidioides, Jour. Med. Research, December, 1904, p. 53.

between St. Louis and Denver. He had never been in California.

Aside from being a rather heavy smoker he denied having any bad habits, and appeared to be considerably superior to the average of his race.

The patient gave a history of typhoid fever in 1898, running a mild course. He had "malaria" five years ago. Two years ago he had a rather severe attack of tonsillitis; about ten years ago he had gonorrhea; and a sore on the penis seven years ago, but he gave no history of secondaries.

His present illness began three weeks previous to his entrance to the hospital. The patient believed he had "caught cold." He had coryza, hoarseness and a cough. Though he felt better a few days later, his cough and hoarseness remained. At the onset the cough was not productive, but later he expectorated a profuse, frothy, watery sputum. He lost about 10 pounds in three weeks, and always felt feverish in the evening.

Physical Examination.—The man was well developed, well nourished, and apparently in good general condition. The tonsils were enlarged and injected, and the pillars of the fauces slightly inflamed. The heart findings were negative. The respiratory sounds were slightly increased in pitch posteriorly over the right side, medial to the scapula. The abdominal examination proved negative, and neither the spleen nor the liver was palpable. The inguinal and epitrochlear glands were moderately enlarged and palpable on both sides. The temperature was 100 F., and the pulse 100, the respiration 28 at the time of entrance.

Course of Disease.—During his first few days in the hospital the progress of the disease suggested an infection of the upper respiratory tract. A culture from the throat was negative for diphtheria. The first six days the temperature reached normal a few times, but from then on the fever became continuous, never again reaching normal. July 30, a 2+ Wassermann reaction was obtained from the blood; Widal and blood cultures both negative. August 1, the patient called our attention to painful nodules in the calves of the legs. One nodule was found in each calf. It was slightly tender, hard, about the size of a hazelnut, and apparently situated in the gastrocnemius muscle. Following this observation new nodules appeared each day, and by August 10, thirteen in all were palpable. These were both subcutaneous and in the muscles, distributed over the front of the chest, abdomen, forearms, thighs and legs. They varied from the size of a pea to that of a hickory nut. At this time we attempted to remove a nodule from one of the pectoral muscles, but punctured it and found what appeared to be an abscess containing a slightly sanguineous, opaque fluid. In addition to many polymorphonuclear leukocytes, double contoured round bodies were found in the smears. On the same day the sputum disclosed similar bodies in large numbers. The lungs now revealed dulness on percussion over the right middle and lower lobes posteriorly, bronchovesicular breathing and subcrepitant râles, the lung picture suggesting a bronchopneumonia.

August 13, two nodes were removed from the left gastrocnemius muscle. Each node contained an abscess similar to the first one examined. Double contoured bodies were again found. The pulmonary findings were more pronounced by this time. Tubular breathing was heard posteriorly over the right base, and dulness was more marked. While a fluoroscopic examination of the lungs, at entrance, was practically negative, a roentgenogram now showed extensive consolidation of a large part of the right lung and much generalized mottling (Fig. 1).

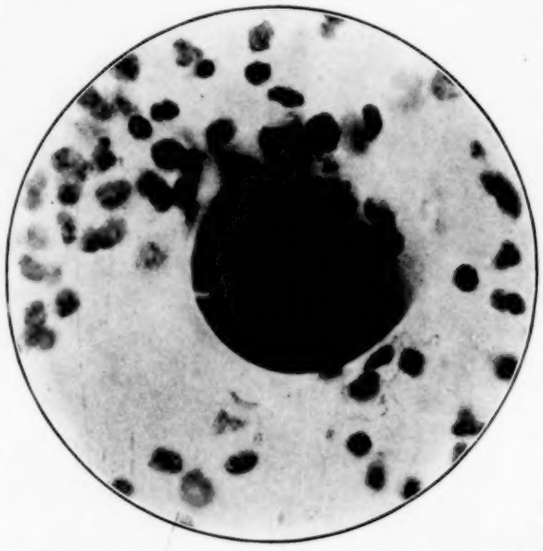

Fig. 2.—Large coccidioidal organism in sputum filled with endospores and in the process of rupturing; × about 1,500.

The patient now rapidly grew worse; his respiration became more frequent and labored, and his appearance more toxic. His mind remained clear until shortly before his death, which occurred August 20, thirty-one days after his admission, and about fifty-two days after the onset of the disease.

In the beginning his temperature was intermittent until about the seventh day after entrance, rising as high as 101.5 F. It then became continuous, the highest point being 102 in the morning and 101 in the evening. It was interesting to note that there was a morning rise for two weeks, after which the reverse was noticed. Following this, the temperature oscillated between 103.5 and 100; it finally rose to 105.5 on the twenty-fourth day, with a morning remission to 103.5, after which it gradually declined, and at the time of death reached 99.5.

The patient entered with a pulse of 100. For twenty days the pulse rate varied between 80 and 105, following the temperature curve. From then to the time of the highest temperature it rose in frequency to 168 per minute. Then it continued to follow the temperature curve. The systolic blood pressure averaged about 130 mm. of mercury.

The respiratory rate varied between 20 and 35 during the first three weeks. It then gradually increased in rapidity, and reached its greatest frequency, 80 per minute, a day before death.

It was most unfortunate that a necropsy could not be obtained.

Treatment.—At the onset the treatment was symptomatic. When the Wassermann test was found positive, potassium iodid was given by mouth, and mercury by intramuscular injection. The mercurial treatment was discontinued at the end of eight days, but 45 grains of potassium iodid were administered three times daily, and later increased to 60 grains until the sixteenth day, when it was discontinued. Following this, copper sulphate, one-fourth grain, was given three times daily for four days. The potassium iodid and mercury appeared to have no influence on his condition and were, therefore, discontinued. The copper sulphate proved irritating to the gastro-intestinal tract.

Laboratory Findings.—Blood: July 27: Erythrocytes, 4,800,000; leukocytes, 12,000; hemoglobin, 85 per cent. Differential count: Polymorphonuclears, 74 per cent.; small lymphocytes, 10 per cent.; large lymphocytes, 6 per cent.; eosinophils, 6 per cent.; transitionals, 4 per cent.

August 6: Differential count: Polymorphonuclears, 70 per cent.; small lymphocytes, 20 per cent.; large lymphocytes, 4 per cent.; eosinophils, 2 per cent.; transitionals, 2 per cent.; basophils, 2 per cent.

August 8: Erythrocytes, 3,000,600; leukocytes, 12,600; hemoglobin, 65 per cent. Differential count: Polymorphonuclears, 58 per cent.; small lymphocytes, 15 per cent.; large lymphocytes, 16 per cent.; eosinophils, 6 per cent.; transitionals, 3 per cent.; basophils, 3 per cent.

August 12: Erythrocytes, 3,860,000; leukocytes, 21,500; hemoglobin, 75 per cent. Differential count: Polymorphonuclears, 72 per cent.; small lymphocytes, 17 per cent.; large lymphocytes, 6 per cent.; eosinophils, 2 per cent.; transitionals, 3 per cent.

August 16: Leukocytes, 29,000.

August 17: Leukocytes, 31,200. Differential count: Polymorphonuclears, 80 per cent.; small lymphocytes, 16 per cent.; large lymphocytes, 2 per cent.; transitionals, 2 per cent.

August 18: Leukocytes, 32,400; numerous myelocytes appeared.

August 20: Leukocytes, 62,400 on day of death.

Urine: This was negative on entrance. August 10, a trace of albumin appeared. Later this increased somewhat, and a few hyaline and granular casts were found.

Sputum: Macroscopically this was always light colored, frothy, and contained large quantities of mucus. Small, flaky particles were suspended in this mucus. Microscopically it had the appearance of ordinary sputum, but in addition contained the aforementioned double contoured bodies. These organisms were easily demonstrated by mixing the sputum with a 4 per cent. potassium hydroxid solution. They varied in size from 3 to 50 microns, and were always circular with a distinct double refractile cell membrane, varying in thickness according to the size of the organism. No budding types were observed, but many organisms containing endospores were found. Some were seen in the process of rupturing and others were empty (Fig. 2). The sputum was repeatedly stained for tubercle bacilli with negative results, but in this process the cell membranes of the coccidioidal organism were found to be acid fast, making a marked contrast to the rest of the blue field. Evidently only a small number of fully developed forms took the stain, for far greater numbers were found by the potassium hydroxid method.

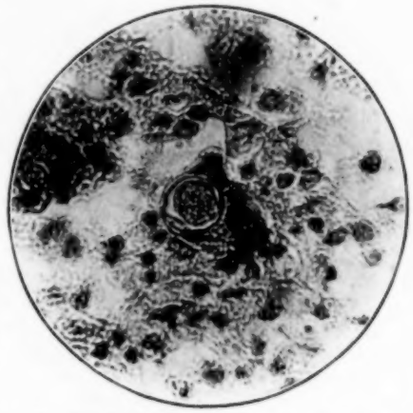

Fig. 3.—Double contoured body in granulomatous tissue from excised nodule; × 1,000.

Sections from the nodules excised from the calf muscles, August 13, had the appearance of tuberculous granulomatous tissue. Numerous giant cells were found. Typical double contoured bodies of various sizes, similar in every respect to those observed in the sputum and in the abscesses, were noted within the giant cells as well as outside of them (Fig. 3). No budding forms were discovered after painstaking search.

A nodule was submitted to Dr. Charles Klenk for bacteriologic examination. Cultures were made by him on glycerin and plain agar and in bouillon and grown at 30 C. (86 F.). Within twenty-four hours a profuse, homogeneous, grayish-white growth almost completely covered the solid medium. As the cultures became older, aerial hyphae were apparent at the edges. Microscopically, the growth consisted of branching mycelial threads with club shaped endings. At the bottom of the bouillon culture, after about a week, flaky globular bodies about the size of a small cherry and covered with fine villuslike projections were found, waving in the medium. The bacteriologic findings agreed absolutely with those described by Wolbach,[3] Ophüls[4] and others. Material from an agar slant was injected into the back of a guinea-pig intradermally. A nodule developed and increased gradually in size until at the end of three weeks it was as large as a small walnut. It fluctuated and involved the skin and subcutaneous tissue. This tissue was removed under aseptic precautions. Sections revealed numerous double contoured bodies (Fig. 4), similar in all respects to those found in the original tissue. Cultures were identical with those from the patient's nodules.

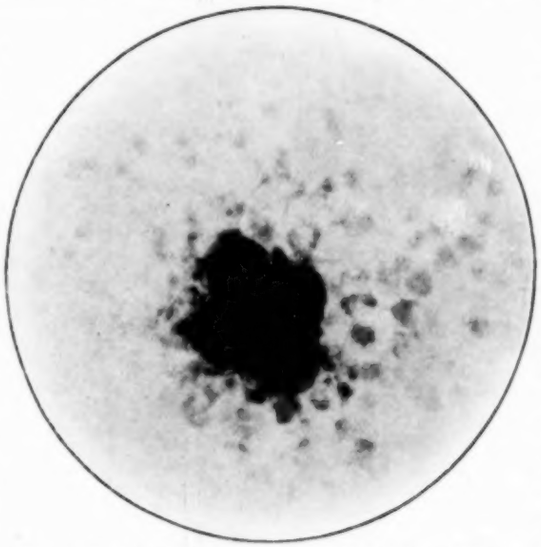

Fig. 4.—Pus from abscess in nodule excised from guinea-pig; × 1,000.

From the clinical and pathologic findings this can readily be classified as an undoubted case of coccidioidal granuloma.

COMMENT

While this case is similar in most respects to those previously reported, it is different to the extent that its duration was shorter than that of any case we have found reported in the literature.

While most of the other cases were characterized by an irregular temperature and a very moderate leukocytosis, here we had a high, sustained fever and a marked leukocytosis.

As the disease progressed, the nodules grew smaller, and a walling-off process appeared to take place. This would tend to show that some healthy reaction was going on in the region of these focal lesions. At the same time, however, the pulmonary involvement progressed rapidly, taking on the characteristics of an active bronchopneumonia, and was most probably an active factor in the fatal termination.

This condition, both clinically and pathologically, closely simulates tuberculosis in many respects.

Coccidioidal granuloma appears to be more rapidly fatal than systemic blastomycosis. In our case, the treatment recommended for blastomycosis was of no avail.

Excepting for one or two cases reported to have been treated successfully by surgical measures, such as early amputation, this disease does not appear to be amenable to any form of treatment.

601 Metropolitan Building.

Memorial to Finlay.—A bust of Dr. Charles J. Finlay was unveiled recently at the central headquarters of the national public health department at Havana, Cuba. He first suggested the possibility of the propagation of yellow fever by means of the mosquito. This was in 1881, and for twenty years he strove to convert others to this theory but without success, no scientific authority accepting the insect transmission of disease until the American Commission established the fact beyond question in 1901. The memorial has been erected by subscriptions from the physicians, pharmacists, veterinarians and nurses of Cuba and the officials of the Cuban national public health department. After paying over $2,500 for the bust, a surplus was left of over $1,000, which was presented to Finlay's widow. The French Académie des Sciences divided the Bréant prize between Finlay and Agramonte a few years ago, and their names have been proposed as candidates for the Nobel prize in medicine. The organization of the national public health department is largely Dr. Finlay's work. He succeeded Dr. Gorgas as chief health officer of Cuba in 1902. Finlay was a native of Cuba, but studied medicine at Jefferson Medical College, Philadelphia. His chief articles in support of mosquito transmission of yellow fever appeared in 1886 and in 1894, and he waited patiently and with confidence for the world to accept his views.

CANCER OF THE LIP

W. W. GRANT, M.D.
DENVER

Cancer is common in the lower lip, and infrequent in the upper; it is common to men, infrequent in women, and rarely occurs in the young. Therefore, we must associate it with the occupations and habits of men chiefly.

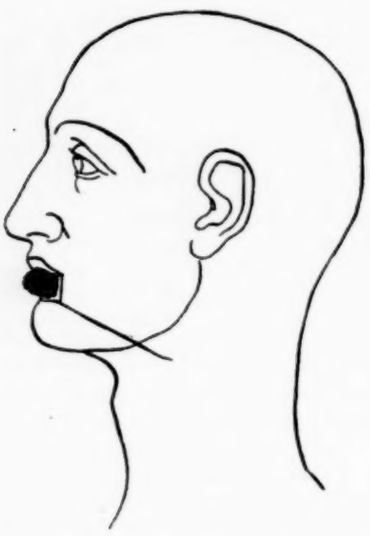

Fig. 1.—First step of operation.

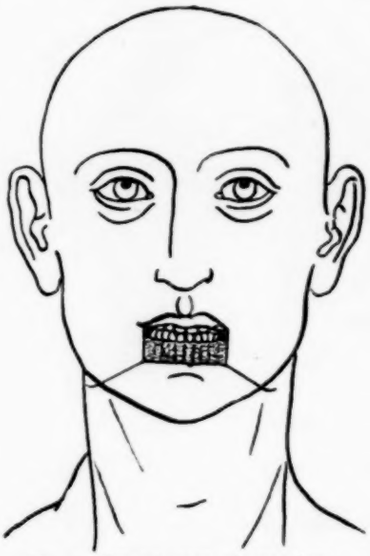

Fig. 2.—Second stage of operation.

As to etiology, we are unable to affirm, or to deny, a specific germ. The germ theory is not inconsistent with injury as a predisposing causal agent. Observation and experience teach its intimate and frequent association with trauma. Cancer does not originate in healthy tissue. Weakened, nonresistant tissue, under such favoring conditions as scar tissue, and fissures and ordinary ulcers, whether due to chemical rays or to persistent local irritation, invite it. The lips, mouth and tongue are always exposed to irritation and infection from a variety of sources — ragged teeth, the pressure of a pipe stem and the constant irritation of tobacco. Eliminating the specific ulcers, and this is not difficult, one should look with suspicion on every persistent ulcer of the lips, whether in the form of a crack or fissure or the ordinary looking superficial ulcer. As in every other part of the economy, early diagnosis is of the utmost importance, for the simple and unanswerable reason that it determines the prognosis. No one is justified in delaying action for serum tests, therapy or refined laboratory investigations, to corroborate or determine the probable diagnosis of cancer of the lip. Sight and touch, with the clinical history, are usually sufficient. A hard ulcer base, without even manifest glandular involvement, is always suspicious and significant. I know of no department of surgery which taxes more severely the skill, nice sense of proportion, harmony and delicate technic than plastic work of the mouth and face.

Early radical excision gives the only promise of permanent relief. It is cruel to torture a patient with caustic pastes, and it is inviting disaster to rely on the Roentgen ray, unless as a postoperative prophylactic measure. Both these agencies will cure a certain number, or class, of superficial ulcerations, but both are also dangerous irritants. Glandular involvement is not always early, even in malignant ulceration, and this explains why, in such cases, the cure may be permanent without the removal of glands. The basal cell forms the basis of these cases. The prickle cell is more malignant and rapid in action. It is well established, however, that any operative procedure, short of *complete* extirpation, does more harm than good. In a well established or extensive ulceration with glandular involvement, the Roentgen ray may eventually induce more rapid extravasation and metastasis, and any local irritant will do the same thing. If the disease is located between the middle and the corner of the mouth, the glands on that side will be first infected, and for a time the infection will be limited to that side. If the ulcer is in the center of the lip, and also as it approaches the center from the side, the submental glands will be affected, in keeping with the distribution of the lymphatic vessels.

The removal of the diseased lip should be the *first* step of the operation, to avoid the danger of soiling the clean-cut tissues by the discharge from the ulcerated tissue. The submaxillary glands and lymph nodes are the receptors and distributors of the virus through the lymph vessels. The sooner the diseased mass (the origin of the infection) is removed, the less the danger of distributing the virus by the manipulations incident to the operation. The reasons given by some writers for reversing this order are not tenable. The excision of the diseased lip is done usually in one or two minutes, while the extirpation of the glands is a slow and often tedious process, if thoroughly done.

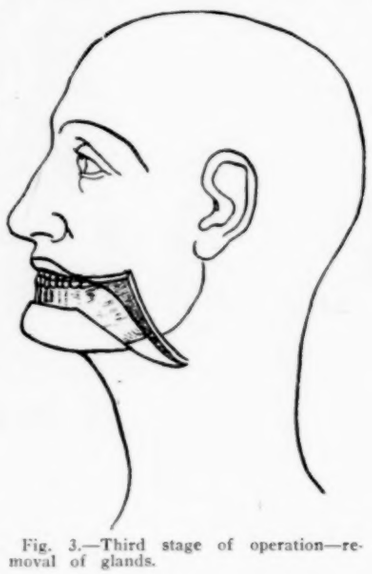

Fig. 3.—Third stage of operation—removal of glands.

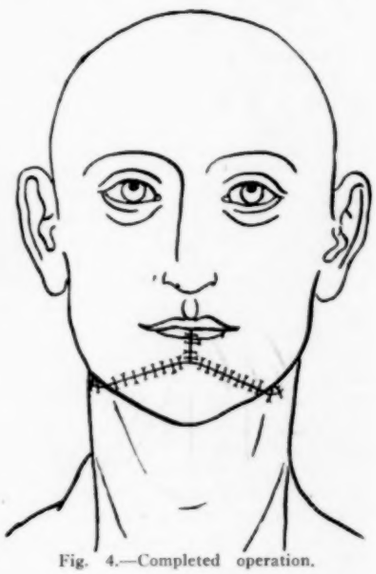

Fig. 4.—Completed operation.

Safety demands wide excision and as complete removal as possible, of submaxillary glands and lymph nodes, regardless of evidence of their being involved. In the hands of most operators who have devised methods of procedure, the incisions for flap formation are independent and distinct from those for the removal of the glands. This is unnecessary. The V

Fig. 5.—For widening mouth: first step: mucous membrane ready for dividing in middle line.

incision is a tradition; it should have no place in modern surgery, unless in a very small growth in a large mouth, for with its broad base and apex in healthy chin tissue, it inevitably results in a sucker mouth. Besides, the stable chin tissue is necessary and most important for the fixation of mouth flaps.

The semilunar incision is objectionable even in small superficial ulcers, for it leaves a depression at the site of the disease, and when half or more of the lip is excised, it, like the cuneiform operation, is not the most satisfactory condition for the making of efficient flaps in the construction of a mouth. No operation which leaves ugly and needless scars is ever desirable, and this is especially true of the face. That operation is best which involves the fewest incisions necessary for complete work, and replaces the diseased lip by soft elastic tissue, resembling the original as nearly as possible, with the least disfigurement, and best cosmetic results.

The stationary chin tissue is of great importance as a point of fixation for the sliding flaps which constitute the reconstructed mouth. The chin flaps of Langenbeck, Esmarch, Kowalzig, Blasius, Volkmann, Serre, Celess, Syme, Buchanan, and Morgan are all objectionable for the reason that this hard inelastic tissue is not suitable, and a further objection is the absence of mucous membrane, which is not conveniently supplied. The Morgan operation (Esmarch, Kowalzig, Regnier operation, Binnie) are the same in technic. The chin flaps framed in this way tend to retract and drop downward, with entropion of the lip and dribbling of saliva. The cheek flaps of Bruns, Estlander, Sedilot, Diffenbach, Trillat and Trendelenburg are needlessly mutilating and disfiguring, and always endanger Stenson's duct. The sliding chin and cheek flaps of Sutton, Nélaton, Ombredanne and Stewart have no fixed base and are objectionable for the same reason. In the Morgan operation the divided elliptic space beneath the jaw is closed partly by stitches, grafts and granulation tissue. These chin flaps do not make a mobile mouth.

I may be pardoned for again expressing the opinion that the best operative procedure for the reconstruction of the mouth involving one or both lips is the one which I devised, and first described[1] in 1899, and again more elaborately[2] in 1905.

AUTHOR'S TECHNIC

The growth is excised by rectangular incisions, the base uniting the two vertical incisions being ordinarily in the depression, or crease, between the apex of the chin and the lip. From the two inferior angles of the wound, incisions are made obliquely downward and outward, dividing all tissues, including the mucous membrane, and crossing the maxillary line at a point about equidistant between the angle of the maxilla and the symphysis, and then carried backward beneath the maxilla as far as may be necessary to permit the easy removal of glands, and at the same time afford good flaps for the mouth. Stenson's duct is never cut. The operation is repeated on the opposite side and all glands are cleaned out, the submental, by a vertical incision between the anterior belly of the digastric muscles.

The cheeks are then separated from the maxilla, at least as far as the masseter muscles if necessary. The facial arteries are cut, but the parts are vascular and the blood supply ample. The flaps are then brought forward and first united to each other with silkworm gut, in the middle line. If flaps should be too broad to fill the space accurately, they can be retrenched from the inferior border. If there is much tension, a mattress suture is inserted and tied over gauze. This removes undue tension from the middle suture line.

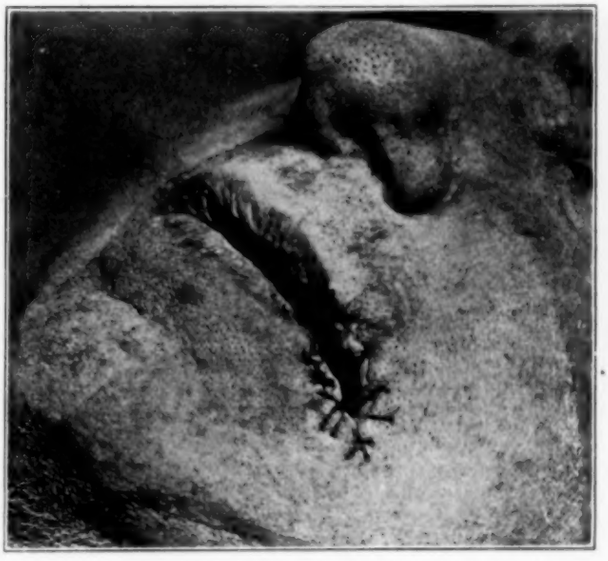

Fig. 6.—Completed operation for widening the mouth.

Stitches of silkworm gut or a running stitch of chromic gut are next applied to the laterial incisions. They should include the entire thickness of the cheek. If half or more of the lip is removed and the mouth does not now admit, without stretching, three fingers of the hand flat, then the mouth is enlarged by an incision backward and slightly downward, from each angle of the mouth, usually from one-half to

1. Grant, W. W.: Med. Rec., New York, March, 1899.
2. Grant, W. W.: Operation for Cancer of the Mouth, THE JOURNAL A. M. A., Sept. 30, 1905, p. 962.

three-fourths inch in length, down *to* the buccal mucous membrane, and the latter separated from the overlying tissues above and below the incision to the extent of half an inch. The lip above and below is now beveled from the inner border of the incision in order to facilitate easy covering of the lips by the mucous membrane, which is *now* divided with scissors in the middle line, nearly to the angle of the skin incision, and united to the skin by a running stitch of chromic gut. (Figs. 5 and 6).

When it is necessary, from the extent of lip removed, to employ this additional procedure, the levator angulae muscles are divided, and in consequence, the upper lip will tilt slightly for two or three months. While this is not a serious matter, being opposed by the depressors, still I am in the habit of cutting away a small wedge of skin and muscle from the upper side of the wound, with the apex at the angle of the mouth, in order to limit this temporary inconvenience. Further to control the action of these and the superioris muscles during the healing process, I apply a strip of adhesive plaster from cheek to cheek across the upper lip. The levators may be put out of action temporarily by subcutaneous division.

A small rubber drain is inserted from the posterior angle of each lateral incision beneath the maxilla, and a T drain through the submental incision into the mouth, under the tip of the tongue. The T end rests behind the incisor teeth, and the outer end is fixed by a safety pin. This drain is especially important, and limits the soiling of the wounds. Without it, saliva and mouth and throat secretions would constantly bathe the lip and wounds, and might interrupt prompt and satisfactory healing.

Though the upper lip is seldom affected by cancer, the same principle and operative technic will apply that has proved so satisfactory in the lower lip. Rectangular incisions for removal of the growth, and oblique incisions upward and outward for the formation of flaps, will satisfactorily meet the indications and necessities of the case. If the triangular shaped flaps thus formed are united while being held in downward traction, and at the same time stitched to the fixed tissue beneath the maxillary spine, the short upper lip frequently observed will not result, and this procedure, I may add, will prevent the short, concave lip so common after the ordinary harelip operation.

Fig. 7.—Width of lip excised, seven-eighths inch. In tumor, or disfigurement, the oblique incisions, upward and outward, with triangular flaps, detached from maxilla, will restore the lip to normal proportions without wrinkling of the skin, or short upper lip.

In the ordinary operation, all glands can be removed and flaps perfected through the same incisions. The new lip tissue is the most suitable for the purpose, thick, soft and elastic, presenting a good appearance and mobile lips. In the lower lip there is not a cicatrix above the angle of the mouth, and there is not a denuded surface in the whole operation to be healed by skin grafting or granulation. The cosmetic results are the best attainable. If the growth is distinctly to one side of the mouth, it follows that the flap from the opposite side will be longer than the one from the diseased side. It makes no difference, therefore, whether or not the flaps meet in the middle line. Covering of flaps and vermilion border with mucous membrane is essential to prevent disfiguring contraction.

POSTOPERATIVE TREATMENT

No condition probably requires more attentive and skilful after-treatment. The first dressing should be changed in from twenty-four to thirty-six hours, and repeated at these intervals for a week. At such time, the mouth should be irrigated through the T tube as well as the mouth, with warm boric acid and normal salt solution. The patient should be nourished with liquids through a feeding tube until the stitches are removed, after a week or ten days.

I emphasize some of these details because the mouth is never aseptic (if at all, but a short time) under *any* conditions, and in cancer is never clean.

Postoperative treatment often determines the measure of our success in many conditions, and in none does it produce more satisfactory results than in cheiloplastic work of mouth and face.

HEMOGLOBIN ESTIMATION *

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NEW YORK

Every clinician and surgeon recognizes the importance of hemoglobin estimation in affording valuable additional data in the diagnosis of certain diseases and conditions. By means of such blood examinations, the progress of the patient's condition can be watched from time to time during the treatment of the disease. In blood transfusion work its useful application has been shown by Libman and Ottenberg.[1] They recommend an easy working formula using hemoglobin estimation and body weight for calculating the amount of blood necessary to raise the hemoglobin of the recipient to a certain percentage. Blood taken from a donor can be calculated in the same manner.

The value of a reliable and convenient clinical method is obvious. An ideal clinical method should be one easy of manipulation, accurate, rapid and, if possible, utilizing an instrument both portable and inexpensive. The estimation of hemoglobin is obtained in several ways: first, directly, (*a*) photospectroscopically and (*b*) colorimetrically; second, indirectly, (*c*) by estimation of iron, and (*d*) by estimation of oxygen.

The photospectroscopic method is the best and most exact, but for general clinical purposes it is unpractical, the price of armamentarium being prohibitive. The chemical methods in use at the present time have found less favor than the colorimetric. The various methods for hemoglobin estimation described in textbooks and taught in our medical colleges are colorimetric. The following synopsis of these methods comprises a short description and comments on procedure:

Talqvist's is the simplest, but has an error of from 15 to 30 per cent. It is performed with blotting paper, which is saturated with a drop of the patient's blood and this compared with a standard color chart.

In the Oliver, Dare and Fleischel methods, the blood is compared with a changing standard of color disks or to a movable wedge of colored glass. These

* From the Pathological Laboratory, Department of Physiological Chemistry, Mount Sinai Hospital.

1. Libman, E., and Ottenberg, R.: A Practical Method for Determining the Amount of Blood Passing Over During Direct Transfusion, THE JOURNAL A. M. A., March 7, 1914, p. 764.

methods require the reading to be made in a dark room by candle light, and when the standard color matches the blood, the percentage is read off directly on the scale. It is very difficult to match the color above 80 and below 40; therefore these limits should be considered. An inexpensive and convenient method is that of Gowers, the blood being simply diluted with water drop by drop in a small calibrated tube, until it matches a standard color tube. The percentage is read off directly by noting the height on the scale, to which the meniscus of the fluid has risen. Two color standards, one for artificial light and one for daylight, are necessary; but on account of the colors fading very rapidly, Sahli had modified this method by using tenth normal hydrochloric acid to reduce the hemoglobin to hematin and substituting Gowers' two standards by one standard of hematin. Haldane allows carbon monoxid gas to bubble through the blood used for the test before diluting and compares it to a standard of carbon monoxid hemoglobin. The Sahli I have found most convenient as a clinical method, but the color standard tube gradually fades, and I have seen dense deposits form in some tubes, thus making them worthless as a standard.

The calibrated tubes of the Sahli-Gowers hemoglobinometer hold about 2.5 c.c., and are marked from 10 to 140. Fifty such markings represent 1 c.c. The tubes on the market are not all uniform, either in their markings or caliber. Of those which I examined, some measure 6, 7 or 8 mm. in diameter, permitting very serious discrepancies in the final readings. If a standard color tube has been made of one measuring 8 mm. in diameter, and the calibrated comparison tube measures only 7 mm. in diameter, there would be a difference of 1 mm. As the color intensity varies directly as the square of the radius of the vessel containing it, there would be a lack of uniformity between the calibrated and the standard tube. The difference would not be one seventh or one eighth, which is from 12 to 14 per cent., but in reality from 25 to 33 per cent., because the square of the radius of $7 = 3.5 \times 3.5$, or $12\frac{1}{4}$; and the square of the radius of $8 = 4 \times 4$, or 16. Again, if a tube measuring 6 mm. and another of 8 mm. were used conjointly, the error would, of course, be still greater. This is an important source of error, and when coupled with a faded color standard, vitiates the result still further.

I have endeavored to remedy these defects by having made for me both the calibrated and standard color tubes[2] of uniform size, and have substituted a solution of inorganic salts which is more stable and can be used by artificial light as well.

Another factor in making readings is the personal element. Some eyes are more rapidly fatigued than others, and in having the tubes so far apart as in the Sahli hemoglobinometer, it is rather difficult to compare their contents. I have devised an improved instrument which has already been described[3] as a pocket microcolorimeter.[4] It contains a small window with a prism producing the optical effect of bringing the two observation fields in close proximity, thus facilitating the color comparison.

A factor generally neglected is the change of the plasma and blood volume, and the influence which this may have on the hemoglobin estimation. I made some such observations on patients every hour for a period of five successive hours, beginning before breakfast, some patients being in a reclining position throughout the observations. There was more or less fluctuation, in some cases as much as 25 per cent., in others 7 per cent. The readings of one case, for instance, were 114 per cent. hemoglobin, then 104, 96, 84 and 88. In another case less fluctuation occurred: 98, 96, 94, 90 and 95 per cent. Whatever the cause of these fluctuations may be, it is more probable that a change in the plasma volume has taken place, instead of there being a rapid destruction and reproduction of erythrocytes and hemoglobin. If according to Keith, Rowntree and Geraghty[5] the blood volume is one twelfth of the body weight, then an individual weighing 120 pounds should have 10 pounds of blood, about 5,000 c.c. Reckoning 15 gm. of hemoglobin for 100 c.c., this would make about 750 gm. in the total blood. Quincke has estimated the life of a red cell to be about thirty days. If this is so, then about one thirtieth, or 3 per cent., of the total red cells are destroyed in twenty-four hours, which in this instance is about 25 gm., being approximately 1 gm. per hour of the total blood containing 750 gm. This would be only about a little over 0.1 per cent.

Boycott and Douglas[6] found an increase in blood volume after injection of only 4 c.c. of dextrose solution in the ear vein of normal and nephritic animals. In the latter the increase was slower and subsided more slowly than in the normal animals. Cohnheim[7] found that capillary blood in comparison with that of the arterial trunks had fewer erythrocytes, the proportion varying with their width and the rate of the blood flow. Starling[8] states that Oliver[9] has shown that lymph in the finger increases after a meal by calculating the difference in the number of corpuscles per cubic millimeter before and after compression, the number of corpuscles before compression decreasing and the number of corpuscles after compression increasing after a meal. Keith, Rowntree and Geraghty[5] found differences in total blood and plasma volume when comparing various normal and diseased individuals. The total blood according to their investigations proved to be about one twelfth of the body weight, or about 85 c.c. per kilogram. The comparative differences between individuals were between 78 and 97 c.c. per kilogram, a difference of 19 c.c., or from 20 to 25 per cent. The plasma volume was found equal to about one nineteenth of the body weight, or about 50 c.c. per kilogram. Variations of the plasma of different individuals were from 42 to 55 c.c. per kilogram, a difference of 14 c.c., or from 25 to 33 per cent.

A. A. Epstein,[10] employing small capillary glass tubes instead of the hematocrit to measure the relative quantity of plasma and corpuscles, found that the plasma volume fluctuated during several successive hours of observation on the same individual.

I have supplemented the hemoglobin estimation in a series of observations by collecting blood in capillary

2. These tubes have been made for me by E. Leitz, 30 East Eighteenth Street, New York.
3. Kuttner, Theodore: A New Pocket Colorimeter, THE JOURNAL A. M. A., July 17, 1915, p. 245.
4. The instrument is now made by E. Leitz, New York.
5. Keith, N. M.; Rowntree, L. G., and Geraghty, J. T.: A Method For The Determination of Plasma and Blood Volume, Arch. Int. Med., October, 1915, p. 547.
6. Boycott and Douglas: Blood Volume in Normal and Nephritic Animals, Jour. Path. and Bacteriol., 1914, xix, 221.
7. Cohnheim: Gesammelte Abhandlungen, Berlin, 1885; Arch. f. d. ges. Physiol. (Pflüger's), 1888, xlii.
8. Starling: Fluids of the Body, p. 75; Principles of Human Physiology, London, 1912.
9. Oliver: Proc. Roy. Soc., June 11, 1903.
10. Epstein, A. A., and Baehr, George: Studies in Experimental Diabetes After Pancreatectomy, Jour. Biol. Chem., 1916, xxiv, No. 1.

tubes according to Epstein's method during five successive hours, and have found similar variations in the relative plasma volumes. The length of the blood column was measured in each of the five tubes after they were sealed at one end, all centrifuged simultaneously; then the plasma was measured, the differences, after calculation, showing parallel fluctuations between hemoglobin content and blood plasma volume, as heretofore mentioned.

It is plain, therefore, that routine methods in vogue at present for hemoglobin estimation do not give us absolute values. It is also incorrect to have a standard equivalent to 100 per cent. for all individuals collectively, as there is no average "norm." Variations not only of the sexes but also for different ages must be taken into account. If the hemoglobin is 15 gm. for a man aged about 30, this would be 100 per cent. for him; but 11 gm. hemoglobin would be 100 per cent. for a child between 4 and 8 years. Only abnormal variations from what would constitute the "norm" of an individual should be considered pathologic.

The hemoglobin and blood count vary in different periods of life,[11] the fetus having less than the adult. A few hours after birth it is the same as that of the mother; then there is a rapid rise for two or three days, when there are about 20 to 21 gm. of hemoglobin to 100 c.c. of blood, which is the highest maximum attained. Then it sinks between the fourth and eighth years to a minimum of about 11 gm. It then rises at the age of 20 to a second maximum of from 13.7 to 17 gm. This is maintained to about the forty-fifth year, when it slowly declines again.

Sahli, making extensive hemoglobin estimations, found wide differences, some of his assistants, for instance, having 17.3 gm. hemoglobin, others 13.7 gm. per hundred c.c. of blood. He, therefore, had a standard tube equivalent to the highest amount which he found in normal individuals, or 17.3 gm. equal to 100 on his scale. He considered 80 as the average, or 100 per cent., and equivalent to 13.7 gm. All estimations made with the Sahli tube must therefore be recalculated on that basis. In looking over the literature, I find that he does not state whether the investigations were made before or after a meal, or the time of the day they were made; neither does he take the blood volume into consideration, these all being important factors.

The standard color tube which I made for use in these investigations is equivalent to 15 gm. of hemoglobin per hundred c.c. of blood, when the color matches this at 100 on the scale of the calibrated tube. It is not necessary, therefore, to make any recalculations. The amount of hemoglobin for any percentage on the scale is then easily calculated by multiplying this by 1.5, having previously pointed off one place to the left. For instance, 80 was the percentage found on the scale; then $8.0 \times 1.5 = 12.0$ gm. hemoglobin. This tube is convenient to work with in research, especially in conjunction with the investigations of iron and oxygen estimation of the blood.

Huffner,[12] Jacquet, Abderhalden and others have found the iron content of hemoglobin from normal blood to be 0.334 per cent., or about 1 mg. iron in every 300 mg. of hemoglobin. This has been confirmed more recently by Butterfield.[13] I have found about 51 mg. of iron per hundred c.c. of blood of normal individuals. If the iron of the serum, which I found to be about 1 mg., be deducted from this and the remainder be multiplied by 300, we get 15 gm. of hemoglobin, which agrees with the hemoglobin estimation very well.

Huffner[14] found as constant binding power 1.34 c.c., or 1⅓ c.c. of oxygen for 1 gm. of hemoglobin. So did Bunsen and Geppert with their oxygen pump. Plesch,[15] in 1907, and later Butterfield[13] confirmed this. Lothar Meyer (1857-1858) found the same binding power of carbon monoxid as that of oxygen for hemoglobin. Other investigators have found that carbon monoxid has a much stronger affinity for hemoglobin than oxygen, completely displacing the latter in oxyhemoglobin. The Haldane tube of carbon monoxid hemoglobin represents about 14 gm. of hemoglobin, and is equivalent to 18.5 per cent. of oxygen. The average percentage of oxygen capacity for normal arterial blood was found to be about 20 per cent. per volume, various investigators reporting from 17 to 22 per cent. Multiplying the number of grams of hemoglobin found in the blood by this factor, 1.34 or 1⅓, the result would be the oxygen capacity of the blood less the small amount in the serum. My tube, according to these calculations, is therefore equivalent to 20 per cent. of oxygen.

The technic followed for hemoglobin estimation is that of Sahli, with the exception of slight modifications. The Sahli instrument has a capillary blood pipet of 20 c.mm. capacity. In some cases of grave anemia the hemoglobin may be so low as to necessitate the use of from three to five times this amount of blood for an accurate determination. The capillary blood pipet No. 2 of the microcolorimeter permits amounts up to 100 c.mm. to be easily taken. It is necessary to use twice the amount of tenth normal hydrochloric acid when using more than 20 c.mm. of blood, but the reading must be divided by 3 or 5, as the case may be. The capillary blood pipet No. 1 is graduated in 5 c.mm. divisions, being half that of the divisions of pipet No. 2, and enables one to measure less blood for cases of polycythemia, and the reading must, of course, be multiplied by 2 or 4, respectively.

SUMMARY

1. Hemoglobin estimation is recognized as being of value in aiding diagnosis of certain normal and pathologic conditions; it is useful in following the progress of the case; it is also of value in calculating the amount of blood necessary for the recipient and the amount to be taken with safety from the donor in blood transfusions.

2. The most convenient clinical method for hemoglobin estimation is that of Sahli-Gower, but grave errors may rise, owing to the fading of the color standard tube, as well as the lack of uniformity of the diameter and graduations of the calibrated tubes.

3. An attempt has been made to obviate these errors by the use of the pocket microcolorimeter described above, comprising uniformly calibrated tubes and employing various stable standard color tubes of solutions of inorganic salts, one of these tubes being identical with the acid hematin color. This tube is equally adapted to artificial light and to daylight.

11. Compare Hammersten, O.; Leichtenstern, and Jaquet, A.: Bibliothek der gesammten medicinischen Wissenschaften, Vienna and Leipzig, Dr. A. Drasche, 1896. Williamson, C. S.: Influence of Age and Sex on Hemoglobin, THE JOURNAL A. M. A., July 24, 1915, p. 302.

12. Huffner: Ztschr. f. physiol. Chem., 1878, i, 317, 386; Arch. f. Physiol., 1894, p. 130, and Jacquet: Arch. f. Anat. u. Physiol., 1894.

13. Butterfield: Ztschr. f. Physiol. Chem., 1909, xlii, 143.

14. Huffner: Arch. f. Anat. u. Physiol., 1901, supplement.

15. Plesch: Ztschr. f. exper. Path. u. Therap., 1907, iv.

The color comparison can be made with greater facility and accuracy in the microcolorimeter because of the small window and prism arrangement.

4. The standard contains the equivalent of 15 gm. of hemoglobin per hundred c.c. of blood, this being the average amount found in normal individuals.

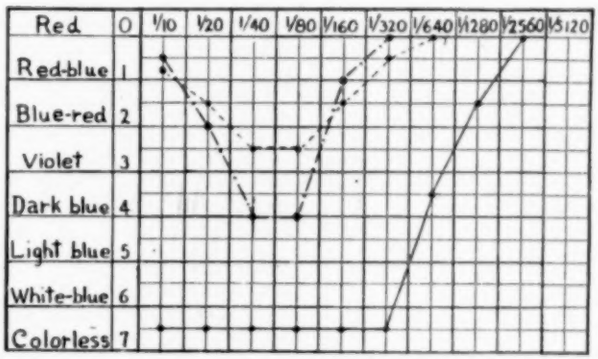
5. This standard reads 100 per cent. directly, instead of 80 being considered 100 per cent., as in the Sahli color tube, thus avoiding the recalculations necessary with the latter's hemometer.

6. Several constants for hemoglobin have been established by various investigators: (*a*) It is constant photospectrometrically; (*b*) its iron content is 0.334 per cent., or 1 mg. per 300 mg. of hemoglobin; (*c*) it combines with oxygen in the proportion of 1 gm. of hemoglobin to 1.34 c.c., or about 1⅓ c.c.; (*d*) it has a greater affinity for carbon monoxid than oxygen, the carbon monoxid displacing the oxygen completely in oxyhemoglobin.

7. Certain factors based on the foregoing constants permit of easy calculations when using the author's tube and method, thus: the percentage of hemoglobin having been obtained, it is only necessary to multiply this figure by 1½ to obtain the hemoglobin in grams per one hundred c.c. of blood. The amount of hemoglobin in grams multiplied by 1⅓ would be the theoretical equivalent of oxygen capacity. The amount of hemoglobin found when divided by 300 would be equivalent to the theoretical amount of iron present. Conversely, the amount of iron found in the blood (less the amount in the serum) multiplied by 300 should be equivalent to the amount of hemoglobin present.

8. The most suitable time for the collection of blood for hemoglobin estimation is before breakfast. The change in blood and plasma volume is of great importance. Hourly determinations of hemoglobin show fluctuations synchronous with the fluctuations of plasma volume.

9. Two pipets are used, one being the ordinary Sahli pipet, but graduated in divisions of 5 c.mm. each, the second pipet having five times the capacity but graduated in divisions of 10 c.mm. each, thus obtaining greater accuracy of determinations in cases of grave anemia as well as of polythycemia.



The Lange gold chlorid reaction. The solid line gives the curve of dementia paralytica; the line of dashes, Mongolian idiocy; the line of dots and dashes, tabes dorsalis.

The American Missionary.—Ambassador Morgenthau, who recently returned from Turkey where he had served two years as Ambassador to the Ottoman Empire, has this to say concerning missions and missionaries:

A residence of over two years in Turkey has given me the best possible opportunity to see the work of the American missionaries, and to know the workers intimately.

Without hesitation I declare my high opinion of their keen insight into the real needs of the people of Turkey. The missionaries have the right idea. They go straight to the foundations, and provide those intellectual, physical, moral and religious benefits upon which alone any true civilization can be built. The missionaries are the devoted friends of the people of Turkey, and they are my friends. They are brave, intelligent and unselfish men and women. I have come to respect all, and love many of them.

As an American citizen I have been proud of them. As an American Ambassador to Turkey I have been delighted to help them.—*Baptist Commonwealth.*

THE SPINAL FLUID IN MONGOLIAN IDIOCY *

H. C. STEVENS, PH.D., M.D.
CHICAGO

In a previous article[1] I presented results which indicated, with a high degree of probability, that the condition known as Mongolian idiocy was one of the manifestations of congenital syphilis. That conclusion was based on serologic tests which were made on the blood serum and the spinal fluid of twenty-one Mongolian idiots. For purposes of reference these experiments are referred to as Series 1. Through the kind cooperation of the officials of the Minnesota State School for the Feebleminded, at Faribault, Minn., it has been possible for me to examine the blood serum and spinal fluid of eighteen additional Mongolian idiots. The results of these tests, which are given in this paper, will be referred to as Series 2.

At the outset it may be stated that the findings in these cases confirm, in almost every particular, the results of Series 1. The technic of the tests in Series 2 was identical with the technic in Series 1. For particulars with regard to this technic, the reader is referred to the previous article. It may be stated, however, that the tests consisted of the Wassermann reaction, as modified by Noguchi, on both the blood serum and the spinal fluid; the cell count, which was made within two hours after the drawing of the fluid; the globulin content, as determined by the Ross-Jones ring test, the Nonne "Phase I" reaction, the Noguchi butyric acid test and the Lange gold chlorid test. The results of the tests are shown in schematic form in the table. The first column of this table gives the number of the case; the second column, the Wassermann reaction on the blood serum; the third column, the Wassermann reaction on the spinal fluid; the fourth column, the cell count; the fifth column, the Ross-Jones test; the sixth column, the Nonne reaction; the seventh column, the Noguchi butyric acid test. The Lange gold chlorid test is indicated by the figures in the last ten columns of the table, which represent the first, second, third, fourth, fifth, sixth, seventh, eighth, ninth and tenth dilutions of the spinal fluid. The degree of the dilutions are indicated in the chart. Seven color changes are distinguished in the reaction. These are indicated in the chart. The color of the original solution is called red. A cipher in the table signifies that there has been no change from the original red solution. The figures under the numbers which indicate the dilution stand for the amount of color change in the gold chlorid solution.

* From the Psychopathic Laboratory of the University of Chicago.

* Owing to lack of space, this article is abbreviated in THE JOURNAL by omission of the case reports. The complete article appears in the reprints, a copy of which can be obtained by sending a stamped addressed envelope to the author.

1. Stevens, H. C.: Mongolian Idiocy and Syphilis, THE JOURNAL A. M. A., May 15, 1915, p. 1636.

It is now clearly established that syphilitic spinal fluids yield characteristic color changes when mixed in certain dilutions with the gold chlorid solution. This test was first described by Lange[2] in 1912. Two constant and characteristic syphilitic reactions occur in this test, namely, the reaction for dementia paralytica, and that for cerebrospinal syphilis. So delicate and constant are these reactions that serologists have come to consider them of greater diagnostic importance than the Wassermann test. The two types of reaction are shown in the chart. The gold chlorid reaction of the spinal fluid of the Mongolian idiots is also shown in the chart. This graph is obtained by taking the average of the reactions of our eighteen cases as they are expressed by the figures in the table. It will be seen from this graph that the reactions are characteristic of cerebrospinal syphilis. An analysis of the results shown in the table indicate that the globulin tests were positive in every instance. These tests furthermore parallel exactly the results of the Lange test. While conclusive proof is still lacking that the Lange test depends on the globulin content of the spinal fluid, the belief that such is the case will be further strengthened by these experiments. With

RESULTS OF EXAMINATION OF BLOOD AND SPINAL FLUID IN MONGOLIAN IDIOTS

Case No.	W. R. Blood	Cerebrospinal Fluid					
		W. R.	Cells	Ross-Jones	Nonne	Noguchi	Lange Gold Chlorid 1 2 3 4 5 6 7 8 9 10
1	Negative	+	1	+	+	+	1 2 3 2 1 0 0 0 0 0
2	Negative	Negative	0	+	+	+	1 1 2 2 2 1 0 0 0 0
3	+	Negative	0	+	+	+	1 2 4 4 4 2 1 0 0 0
4	Negative	Negative	0	+	+	++	1 2 3 3 2 1 0 0 0 0
5	Negative	Negative	0	+	+	+	1 1 3 4 3 2 1 0 0 0
6	Negative	Negative	2	+	+	+	1 1 2 3 1 1 0 0 0 0
7	++	Negative	0	+	+	+	1 1 3 2 1 1 0 0 0 0
8	+++	Negative	0	+	+	+	0 0 2 3 4 3 3 3 1 0
9	Negative	Negative	0	+	+	+	1 2 3 2 1 0 0 0 0 0
10	Negative	Negative	30 bld.	+	+	+	0 1 2 1 1 0 0 0 0 0
11	Negative	Negative	0	+	+	+	0 1 1 1 2 1 0 0 0 0
12	Negative	+	1	+	+	+	1 1 2 2 1 0 0 0 0 0
13	Negative	Negative	3	+	+	+	1 1 3 4 1 0 0 0 0 0
14	++	Negative	17 bld.	+	+	+	0 1 2 3 1 0 0 0 0 0
15	+	Negative	1	+	+	+	1 1 2 3 1 0 0 0 0 0
16	Negative	Negative	1	+	+	+	2 4 3 1 1 0 0 0 0 0
17	+++	Negative	2	+	+	+	1 2 3 3 1 0 0 0 0 0
18	Negative	Negative	0	+	+	+	0 1 2 1 1 0 0 0 0 0

the exception of two fluids (Case 10 and Case 14) in which blood was present, the cell count was normal. The Wassermann reaction on the spinal fluid was positive in two cases (Case 1 and Case 12). The Wassermann reaction on the blood serum was positive in six cases (Cases 3, 7, 8, 14, 15 and 17). The general results for Series 2 may be summarized as follows:

1. The Wassermann reaction on the blood serum of Mongolian idiots was positive in 33 per cent. (six out of eighteen) of the cases.

2. The Wassermann reaction on the spinal fluid was positive in 11.1 per cent. (two out of eighteen) of the cases.

3. Pleocytosis was present in no case, except in the two already mentioned in which blood was present.

4. The globulin content was increased in 100 per cent.

5. The gold chlorid reaction was present in 100 per cent. of the cases.

6. The color changes of the gold chlorid reaction are typical of cerebrospinal syphilis.

2. Lange: Ueber die Ausflockung von Goldsol durch Liquor cerebrospinalis, Berl. klin. Wchnschr., May 6, 1912, p. 897.

While the serologic tests seem to demonstrate beyond question that this condition is a result of syphilitic infection, it is not, however, to be considered a form of frank cerebrospinal syphilis. The characteristic facies of the Mongolian syndrome and the dwarfing of the body make it appear probable that the syphilis acts primarily on some of the endocrine organs,[3] possibly the pituitary body. Studies of the metabolism of groups of Mongolian idiots show a high degree of sugar tolerance and calcium retention. In order that the hypothesis of ductless gland involvement may be tested out, it would be highly desirable for systematic necropsies to be made on the Mongolian idiots. Careful gross and microscopic examinations should be made, especially of the brain, the hypophysis, the thyroid gland and the suprarenals. A thorough search for spirochetes in the brain and blood vessels should be made. I should be deeply grateful to any one sending me material of this sort.

25 East Washington Street.

3. Van Der Bogert, Frank (Congenital Syphilis, Simulating Mongolism, in One of Twins, Am. Jour. Dis. Child., January, 1916, p. 55), reports a case of family syphilis in which the first child was a typical mongol; the second apparently normal; the third and fourth twins, of whom one was mongoloid in form, the other apparently normal.

THE VALUE OF HEALTH EXAMINATIONS

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A complete physical examination should be made of all employees when first hired and periodically afterward, in order to discover physical defects and to place the men at work suitable to their condition. With the general adoption of the workmen's compensation act, it will be as necessary to examine employees as it is now to examine applicants for life insurance; for, the scope of this act is being so extended that employers, or insurance companies, will become responsible for the injuries of all employees, no matter what their physical condition may be or its effect on the cause of the injuries.

Our industries are in need of a constant supply of labor. As soon as the children are turned out of school, they are absorbed into the mills and factories and put to work at whatever happens to be the first vacancy. Their ability to do this work is judged by the shop foreman, entirely by their outward appearance. If they were examined by a physician instead, many catastrophes similar to this case of mine would be saved:

A big, broad-shouldered boy, the picture of health and strength, but ignorant of his true physical condition, was hired with the remark that "he should be able to lift a house and was just the man wanted for carrying heavy material in the shop." What is the medical history of this boy? Three years ago while at school, he had an attack of rheumatic fever with a resulting endocarditis, leaving a mitral regurgitation that would be satisfactorily compensated if he lived a regular, careful life. He did his work for a few months, but noticed that he had slight pains about his heart and that his breath was getting short; but, thinking that he could fight it off, he doggedly persevered at the work, until now he is in bed with broken compensation, and it is a question if he will ever work again.

There are hundreds of similar cases in which men with serious heart lesions are stoking fires, lifting weights or doing other laborious work merely because

they are totally unaware of their danger. Persons with lung trouble are working in dusty, gas-filled factories, and they will continue on their feet until absolutely forced to give up, when their condition may be beyond recovery. So it is with other organic troubles. The men do not know they are in poor physical condition, and when they do find it out, their disease has markedly progressed, their life is shortened, and they become a burden on their families or the community.

When man lived, labored and was supported by his own farm, he could do the work that he found by experience best adapted to his strength and physical limitations. Such men lived useful lives even though they were in poor condition. But today, the necessities of life in cities drives all men to work regardless of their condition. They must get a job, and they usually take the first they find and fight their hardest to hold it. They know what a hardship it is to be out of employment, and the thrill of fear which comes when there is a possibility of discharge. The danger of ever-present want forces them to hold their position at any cost and to work until they drop. Foremen do not care what the physical condition of the men may be. They are there to get results. The unfortunate cardiac who has given the best years of his life to an industry, and is now suffering because his early strength has been sapped by its labors, daily dreads to hear that curt, rasping command of his superior: "This factory is not a hospital. Do your work or get out. If you can't work, go to the cashier, get your pay and go home." Industries are heartless. Most have not the slightest humanitarian principles. But the case of the employee is at last being brought before the attention of the public by the advent of social legislation.

The solution of the problem is to classify our workmen according to their physical condition so that they can be given work which will not injure them. It is said that this will force a large number of men out of a position or make it impossible for them to get work. Yet, if a man is found to be physically unfit for the type of work he is attempting to do, it would really be better for him to be without that work than to remain in the position and finally lose not only the position but also health or even life.

What happens to our workmen when broken down by the industries? The general hospitals are crowded with its acute and chronic cases; tuberculosis camps and sanatoriums as well as the almshouses have their share; public charities care for families, and those who remain at home, semi-invalids to die an early death, are a heavy burden for wife and children. These conditions are largely due to the blind ignorance of our industries of the necessity of a knowledge of the workman's physical condition which would prevent the present reckless waste of good human material. In the needless death of an employee, we have not only the pain and distress to his relations but also an economic loss to society in general. The family has lost its source of support; the city and state, the money expended for education and general welfare; and the industry, a workman.

The first step in the protection of the workman was taken in the adoption of the workmen's compensation act, the most advanced social legislation of this generation. This act aims to charge to an industry the cost of the hazards of that particular industry. The law differs in some states as to who shall derive benefits from it. The Massachusetts law is very broad in its wording, for it states that all shall derive benefit who suffer "personal injury arising out of and in the course of his employment."[1] It does not confine the employee to "personal injury *by accident*," as in the case of the English law and that of some of our states.[2] Until recently, traumatic accidents formed the largest part of its jurisdiction. Now it takes on a still broader significance because of the recent decision of the full bench of the Massachusett's Supreme Court in the case of Mrs. M.:[3]

Mrs. M., an employee in a carpet factory, was seized with an attack of angina pectoris while pulling on a carpet. The Massachusetts Industrial Accident Board decided that she received her injury "in the course of her employment" and was entitled to compensation. The full bench of the supreme court upheld the decision, and its report, quoted in part, said:

"It has been argued on behalf of the insurer that since the harm to the employee was not wholly the effect of the work, but came in a large part from the previously weakened condition of the employee's heart, hence, either there can be no award of compensation, or it should be restricted to that part of the injury which resulted directly from the work, and the part of the injury which flowed from the previous condition should be excluded. The act makes no provision for any such analysis or apportionment. It protects the employees with exceptions not here pertinent.

"There is nothing said about the protection being confined to the healthy employee. The previous condition of health is of no consequence in determining the amount of relief to be afforded. It has no more to do with it than his lack of ordinary care or to the employee's freedom from simple negligence. This act makes no distinction between wise or foolish, skilled or inexperienced, healthy or diseased employees.

"It is a most material circumstance to be considered and weighed in ascertaining whether the injury resulted from the work or from the disease. It is the injury arising out of the employment and not out of the disease of the employee for which compensation is to be made. Yet it is the hazard of the employment acting upon the particular employee in his particular condition of health and not what the hazard would be if acting upon a healthy or upon the average employee.

"Not every diseased person suffering a misfortune while at work is entitled to compensation. The direct connection between personal injury as the result and the employment as its proximate cause must be proved by facts before the right to compensation springs into being. A disease which under any rational work is likely to progress so as finally to disable the employee does not become a 'personal injury' under the act merely because it reaches the point of disablement.

"When a preexisting heart disease of the employee is accelerated to the point of disablement by the exertion and strain of the employment, not due to the character of the disease acting alone or progressing as it would in any rational work, there may be found to have been a personal injury."

Although, judicially this ruling is most clear and concise, medically, difficulties are sure to arise in its application. A man with heart trouble cannot do laborious work without some heart strain which will give symptoms while at work. A physician must admit that a man's disability might have come from some particular effort that the man alleges he made, and if so, compensation would be allowable. The court cautions that "a high degree of discrimination must be exercised to determine whether the real cause of the injury is the disease or the hazard of the employment."[3] The application of this ruling is liable to

1. Massachusetts compensation act.
2. English compensation act.
3. Madden's case, Mass. 222.

mean that every such case must be decided on its own merits, and it will cause a return of the conflicting medical opinions and bitter controversy, so common in civil cases but now absent in the administration of the act. There is also a danger of opening a new field to unscrupulous malingerers who, knowing they have an organic trouble, will produce an injury and attempt to seek benefits under the act.

A complete physical examination of the employees on hire, and then periodically afterward, with classification for work according to the results of this examination, will remove these difficulties. Men would not then be doing work for which they were physically unfit, and better protection would be granted both the insurer and the employee. At the Ford factory in Detroit, there were 11,845 men hired during the past year, given a thorough examination and placed at work that would not be detrimental to their health.[4] Very few applicants were rejected because of their physical condition. The possibilities of hiring men that might be a poor risk for any work, but who would be accepted for employment if they were exempt from the full provisions of the act, the treatment of old employees who have been broken down at their work, and the numerous other problems which at once arise in the application of the act can be solved only by the new rulings or special legislation.

Physical examinations will be a great benefit to the employee, other than from the standpoint of the compensation act, in discovering the start of a disease which might be unknown to the employee, and in his receiving early warning and advice. In tests made by the Life Extension Institute of New York, it was found that a remarkable percentage of men showed physical defects. The examination of a group of the employees of banks and commercial houses, who as a whole are temperate, intelligent and well nourished, was compared with a group from the Ford Motor Factory, with the results given below:[5]

COMPARISON OF 1,000 INDUSTRIAL AND COMMERCIAL EMPLOYEES

	Detroit, Ford, Industrial	New York City, Commercial
Average age, years	32.7	27.
Percentage passing a perfect examination; no physical impairment found and no advice for correction of living habits needed	.00	1
Percentage referred to physician for treatment	69	81
Percentage of those aware of impairment who were referred to a physician	10.15	11.54

Every disease has a start, and it can be cured or its progress checked in its early stages. The Life Extension Institute has taken up this work, and is bringing to the notice of the general public the necessity for early recognition of disease by periodic examinations. In the industries in which health examinations are made, there has been an increase in the morale of the plant and the operating efficiency. The employees are kept in good physical condition, and there is less loss of time of trained men and hence no disruption of the organization. The long bitterly fought war against typhoid, malaria, tuberculosis and the other communicable diseases has resulted in a great victory. Why shall we not be just as successful in this new campaign to check all diseases in their incipiency?

69 Concord Avenue.

4. Ford Times, January, 1916, p. 272.
5. Fiske, E. L.: Increasing Mortality in the United States, New York Med. Jour., Jan. 15, 1916.

ETHER: SIMPLICITY IN ITS ADMINISTRATION *

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The normal anesthetic state should closely resemble natural, physiologic sleep, and any departure therefrom may with safety be assumed to be due to the improper selection of the anesthetic agent, to faulty technic in its administration, or to the improper preparation of the patient for anesthesia. Accumulated evidence, derived from observation and study, is of practical importance in anesthetic work as in other branches of medicine, but, unfortunately, as in other branches of medicine, many clinical manifestations are interpreted to suit the preconceived notions of the observer. Personal points of view are of value in proportion to the experience, comprehensive grasp and unbiased mentality of the individual possessing them.

It is unnecessary to justify, much less to excuse the position I take with reference to simplicity in anesthetic work, simplicity in appliances, simplicity in technic and simplicity in the administration of drugs to produce the anesthetic state. When ether was first used as an anesthetic agent, it was generally supposed that it was necessary to exclude all air, and consequently various cones were made which fulfilled their mission. In my early anesthetic experience as an intern, closed metal cones containing a sea sponge were used. About a fourth of a pound of ether, or an amount sufficient to saturate the sponge, was poured into the cone. Later, cones were made of paper folded with a towel, and absorbent cotton was used instead of the sea sponge, but always with the same idea that practically all air must be excluded. During the period of no-air ether anesthesia, many more or less complicated devices for etherization were made and used in the larger and better equipped hospitals. Then followed the blessed era of the open method of etherization which is now so generally employed. Were there no other advantages than the comfort to the patient during the induction period, one would not only be justified in using the open method but should be compelled through humanitarian instincts to do so. Compare the easy, quiet manner in which a patient falls asleep when given a dilute vapor, with the strangling, suffocation and struggling which takes place when a closed method is employed.

THE OPEN METHOD

Ever since its introduction I have used the open method of etherization, which may be briefly described as follows:

A 4 or 8 ounce can of ether, the size depending on the estimated time required for the operation, is fitted with a cork, into the opposite sides of which two V shaped grooves of unequal size are cut. In the larger of the two grooves is placed a wick of cotton which reaches nearly to the bottom of the can and extends about an inch beyond the cork. If the cork and wick are properly arranged, a full, steady drop will be secured. The rate of drop can be controlled by the angle at which the can is tipped. A cone covered by two layers of fairly fine, closely woven stockinet, or its equivalent in gauze, is used.

* Read before the New York Society of Anesthetists, Feb. 21, 1916.

In all operations except those about the head and neck, the patient is anesthetized in the following manner: The eyes of the patient are covered by a pad of wet cotton. He is now told to breathe naturally, and the anesthetic is begun. If told to take deep full breaths, more oxygen is taken in than is required, and as a result, after a few inhalations, breathing is suspended until the need of oxygen is felt. When the patient starts to breathe again, he usually attempts to take a full breath and has a sensation of suffocation which causes him to struggle unless the cone is lifted from the face, allowing a generous supply of air. The contrary is true if normal breathing is carried on, narcosis developing along the lines of natural sleep. At the beginning of anesthesia, the mask is held away from the face while the ether is slowly dropped on various points. As the patient becomes accustomed to the odor, the mask is gradually lowered until it rests on the face. In a few minutes a piece of gauze is placed around the mask to shut out the air which passes under it. As much air should be allowed as is consistent with narcosis. When the cone cover is too thick, as, for example, when two layers of stockinet and ten or twenty layers of gauze are used, the method ceases to be open and may be termed the semiclosed method. With the latter technic more ether is required to moisten the cover, and the patient's exhalations to a considerable extent are retained within the mask and are reinhaled.

In mouth, jaw, throat and nose operations, I employ the intrapharyngeal method. I use a very simple apparatus which consists of an electric motor which forces air through a tube extending to the bottom of a bottle containing ether. The vapor is carried through a second tube, which extends just through the stopper of the bottle and is several inches from the surface of the ether. A valve controls the density of the vapor. In other operations about the head and neck what is termed a sterile anesthesia is given. All the anesthetic appurtenances are sterilized, and the anesthetist wears a sterile gown and gloves similar to those worn by the operator and assistants. With this form of anesthesia, there is no danger of wound infection or difficulty in managing the anesthetic, as it makes no difference if instruments, sutures or the hands of the operators come in contact with the anesthetist or his "implements of war."

As soon as the neck muscles are sufficiently relaxed to allow it, the head is turned to the side. This position prevents the tongue from falling back into the pharynx and obstructing respiration. I have found an artificial airway of distinct advantage in short, thick-necked persons, especially when the Trendelenburg position is required. The diaphragm shows the rate, depth and regularity of respiration better than listening to the breathing. A finger on the facial artery where it passes over the inferior maxillary bone keeps the anesthetist informed regarding the circulation.

TEMPERATURE OF THE ETHER

That there is any advantage in warming ether vapor to body temperature has been questioned by such able observers as Sellig,[1] Meltzer,[2] Cotton and Boothby,[3] Bevan,[4] McCarty and Davis,[5] and others. Sellig[1] says, "Despite the fact that the ether vapor was driven through a temperature approximating 100 C., it radiated its acquired heat so rapidly that at a distance of 1 meter from the source of heat it had practically assumed room temperature." McCarty and Davis,[5] using dogs, carried on a series of investigations on the use of warmed ether vapor for anesthesia. They found that the most satisfactory method of warming the ether was to heat the vaporized ether by passing it through a coil of tubing immersed in boiling water. They say:

> In the intrapharyngeal and intratracheal methods the vapor was first passed through a jar containing a thermometer bulb to record the temperature at delivery to the patient, and from this it was passed into a catheter which was inserted in the first instance through the nares into the pharynx, and in the latter, through the mouth directly into the trachea. By placing a thermometer in the trachea or in the pharynx through a high tracheotomy incision, as the case might require, we were enabled to determine the temperature of the vapor at the point of delivery in the pharynx or the trachea, and, furthermore, it became possible to estimate the efficiency of the various parts of the respiratory tract as heating chambers. As a check on this method, the intubing catheter was carried out through a tracheotomy incision directly into a bottle which was provided with a thermometer and inlet and outlet tubes. As a further check, lengths of tubing equivalent to those used intrapharyngeally and intratracheally were enclosed in an incubator at 37.5 C., and the change in temperature of the vapor recorded as it passed through this tubing at the same rate as it had been passed into the trachea. The degree of warming of the vapor corresponded closely in this artificial respiratory tract to that observed in the dog. Before concluding the intrapharyngeal experiments, the main bronchus to the lower lobe of one lung was opened, a thermometer inserted and the temperature of the vapor at that level recorded.

These authors conclude:

> When ether is administered by inhalation, unwarmed, the vapor reaches the middle of the trachea at a temperature within 1 or 2 degrees of body temperature. In intrapharyngeal insufflation, where the warming effect of the mouth is partly lost the temperature in the trachea is 3 or 4 degrees below body temperature. It is safe to assume however, that in both instances the temperature is increased to that of the body before the vapor has passed through the primary bronchi. When the unheated vapor is delivered through a catheter inserted nearly to the tracheal bifurcation, it is delivered considerably below body temperature, about 14 degrees; but of this deficiency, 10 degrees has been added by the time the primary bronchus is past, so that the vapor unquestionably has been warmed to body temperature long before it reaches the alveoli.

An investigation of my method of intrapharyngeal anesthesia was made to determine the temperature of the ether vapor at the point of its delivery. Calculations were made with vapor sufficiently strong to keep a patient surgically asleep for the radical removal of the jaw. The room temperature was 70 F. It was found that the length of the tube influenced the temperature to a considerable extent. With a tube, approximately 16 inches in length, there was a fall of 6.3 degrees C. in the first half hour. After that the temperature remained the same. With a tube 9 feet long, during the first fifteen minutes the temperature fell 1.5 degrees C., where it remained for about twenty minutes. At the end of another twenty minutes it had returned to within 0.6 degrees C. of the original temperature, and remained at this point. Drafts from an opened door or window and changes in the temperature of the room influenced the temperature of the

1. Sellig: Interstate Med. Jour., 1911, xviii, 927.
2. Meltzer: Med. Rec., New York, 1910, lxxvii, 477.
3. Cotton and Boothby: Surg., Gynec. and Obst., 1912, xv, 724.
4. Bevan, A. D.: The Choice and Technic of the Anesthetic, THE JOURNAL A. M. A., Oct. 23, 1915, p. 1418.
5. McCarty and Davis: Ann. Surg., 1916, lxiii, 305.

vapor in the delivery tube. When these investigations were summed up the fact was impressed on me that even when dealing with the greatest fall in the temperature, the patient was inhaling a vapor at about 68 F.

McCarty and Davis[5] call attention to the fallacy of the contention that ether vapor warmed to body temperature is less irritating to mucous membranes than the unheated vapor, or that it conserves the energy of the patient by lessening the elimination of heat by the lungs which would be required to warm the vapor. They also have found that the maintenance of surgical anesthesia required the same degree of concentration, approximately 6 per cent. of the warmed or unwarmed vapor. This agrees with Connell's findings.

The advocates of warming ether vapor have overlooked the fact that Nature has carefully protected the lung alveoli by placing between them and the external air a long passage through which air must pass before reaching them. During the transit the air is warmed to body temperature. Were this not true, it is doubtful if warm blooded animals could exist in the polar regions. Of much greater importance than warming the ether vapor is the conservation of the body heat during anesthesia. Vierdordt[6] gives 11 calories per hour as the normal elimination of heat by the lungs, and 90 calories by the skin. When these figures are contrasted, the necessity of preventing the loss of heat by the skin through radiation, evaporation or conduction is apparent. Boothby says, "From a calculation of the loss of heat directly attributable to warming anesthetic vapors, it is demonstrated that such a loss is negligible in comparison to that from the body surface." Loss of heat is probably due to dilatation of cutaneous vessels rather than to a disturbance of the heat regulating center or lessened heat production from diminished muscular movements, because the loss of heat can be prevented by covering, or even raised above normal if the patient is surrounded by hot bottles. The loss of heat is greater when morphin has been administered before anesthesia, and is greatest when a considerable portion of the body is exposed or covered by wet clothing. Dudley P. Allen[7] calls attention to the possible dangers of high temperature in operating rooms. He says:

> In a room having a temperature of 93-96 F., the dog's temperature was increased very greatly under anesthesia, i. e., 4.6 F. At the same time the blood pressure increased. The dog panted violently and was wet with perspiration and seemed greatly exhausted at the close of the experiment.

Allen further remarks:

> This observation fairly raises the question if operations under high temperatures are not exhausting to the patient as well as to the operator and distinctly less advantageous than operations in a room of moderate temperature with the patient well protected.

In the Presbyterian Hospital, the tables are covered by pads several inches in thickness. They are made the width of the table, and of sufficient length so that three sections cover the table. The advantage of having the cover in sections rather than in a single piece is evident when the lithotomy position is required and the end of the table lowered. One section is then removed and is out of the way of the operator. The pads are made of cotton or horsehair, covered with rubber and enclosed in a fresh case for each patient. Likewise various sized so-called "ether blankets" are used made of woolen blankets which, through repeated washings have shrunk till they are too small to be used on the hospital beds. They are covered with heavy white muslin and are quilted. The muslin covering on these blankets is a distinct advantage, as it prevents the fuzz from flying about the operating room, and it also simplifies laundering as it is much easier to remove stains from cotton than from wool. These blankets are placed snugly about the patient, leaving exposed only the field of operation. After the completion of the operation, a fresh gown and woolen covering are placed on the patient for the journey back to his room. It is a well known fact that pneumonia frequently develops in a robust person after an exposure to cold and wet. We all harbor the organisms of pneumonia, and all that is necessary for the development of the affection is a lowered vitality. The question naturally arises whether many of the postoperative pneumonias might not be prevented if greater care were exercised in preventing loss of body heat during and following operations.

THE OPEN AND CLOSED METHODS

Bryant and Henderson[8] very properly say, "The sailing orders should be to keep the patient pink." That is precisely what is obtained by the open method of etherization, and not an intermitting pink and duskiness as when the rebreathing method is used; but it is a constant condition. The well known fact that if too much air be admitted it is impossible to keep the patient asleep disproves the contention of these authors that a too open etherization produces pallor and syncope. Further, I most emphatically refute their assertion that "the patient who, throughout a prolonged operation, has had a really open anesthesia, is likely to leave the table with skin pallid, with coverings drenched in perspiration grown cold from evaporation, and vitality depressed almost to the point of shock." If the patient is in this condition it is not the result of the open etherization, but is due either to the operative procedures or to a too profound narcosis with an impending respiratory and circulatory failure. Again, these authors speak of a "dripping, frosted cone" as characteristic of the open method of etherization. It is not the fault of the method if too much ether is dropped on the cone, but is the faulty technic of the administrator. There will be no frost if a good grade of ether is used.

Again I must take issue with these authors in their assertion that there is more nausea and vomiting following the open method. The more oxygen or air allowed with the ether, the less vomiting there will be. A large proportion of my patients never vomit at all, while many of those who do vomit do so but once, and that is before consciousness returns. Their assertion that gas distention is more common following the open method is not borne out by clinical experience or experimental work. The recent findings of Woodyatt and Graham[9] show that the lack of oxygen plays an important part in the development of distention. Again, quoting from Bryant and Henderson:

> If a sufficient amount of fresh air was admitted to the mask to prevent cyanosis or even any degree of purple color in the skin, there was at all times an ample oxygen supply.

6. Vierdordt: Daten und Tabelen für Mediziner.
7. Allen, D. P.: Am. Jour. Med. Sc., 1897, p. 298.
8. Bryant, John, and Henderson, Yandell: Closed Ether and a Color Sign, The Journal A. M. A., July 3, 1915, p. 1.
9. Woodyatt and Graham: Tr. Chicago Path. Soc., 1912, viii, 353.

This condition is equally necessary to the maintenance of vitality, since anoxemia induces acidosis and a general intoxication.

Could any better argument be given for the open method than this? How do you keep the patient pink? By giving oxygen, not by shutting it out. These authors refer to anesthetics in Germany. I would not select Germany or any other foreign country to see anesthetics well administered. The best anesthesias in the world are given right here in America.

With an experience of over 30,000 open ether administrations, I may be privileged to say with assurance that the patients leave the operating room after severe major operations with normal color which indicates good circulation and with normal respiration. In our work it is a rare exception for a patient not to have a perfectly smooth narcosis lasting throughout a long, difficult operation. It is very unusual also not to have the patient sufficiently awake to move about or answer when spoken to within ten or twenty minutes after the anesthetic is withdrawn.

Offergeld[10] studied the pathologic changes in the lungs which occurred after an etherization lasting from seventy to eighty minutes. His results were obtained in guinea-pigs, rabbits and cats after using the closed method, a mixture of oxygen and ether, and by the open method. The animals which did not die were killed at various periods after the narcosis. With a closed anesthesia some of the animals died in a few days from bronchopneumonia. Some were killed in two or three days and their lungs showed patches of bronchopneumonia and desquamation of bronchial epithelium, blood and pus. None of the animals that were given ether and oxygen died. If killed at the end of the first day, patches of consolidation and some blood and desquamation of epithelium were present in the bronchi. With the open method there were no deaths. The animals were killed in from one to eight days after narcosis. Two days after the anesthesia, necropsy showed a perfectly normal condition of the lungs. When the closed method was used, it required four days for the mildest cases to repair.

CONCLUSIONS

The anesthetic state should resemble normal sleep.

Simplicity in the administration of ether, as simplicity in other branches of medicine, is desirable.

As much air or oxygen as is consistent with narcosis should be allowed.

That there is any distinct advantage in warming ether vapor is very doubtful.

The conservation of body heat during anesthesia is of great importance.

With the open method of etherization, the patient's blood is well oxygenated throughout the most difficult operation, and patients leave the operating table with normal color and normal respiration.

There is less injury to the lung epithelium when an abundance of air is allowed with the ether.

110 South Ashland Boulevard.

10. Offergeld: Beitr. z. klin. Chir., 1907, lxxxiii, 505.

The Value of Health.—O blessed health! thou art above all gold and treasure; 'tis thou who enlargest the soul, and openest all its powers to receive instruction, and to relish virtue. He that hath thee hath little more to wish for, and he that is so wretched as to want thee wants everything with thee.—Sterne.

THE TREATMENT OF GENITO-URINARY TUBERCULOSIS WITH ROSENBACH'S TUBERCULIN *

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In 1910 Rosenbach[1] described a new tuberculin, and reported a number of successful results of its application in the treatment of surgical tuberculosis. Since then a number of articles[2] have appeared in the German literature dealing with the same subject, and for the most part substantiating the claims of Rosenbach and his followers.

In all the literature on the subject, only one case has been described in which the treatment has been used in tuberculosis involving the urinary tract. From this case, one of renal tuberculosis, the insufficient data, and the short period of time during which the patient was under observation, do not permit of any definite conclusions. In view of the numerous reports of cures in surgical tuberculosis, it was decided to use the tuberculin in the treatment of postoperative and inoperable tuberculosis of the genito-urinary organs. A brief synopsis will be given of the results obtained in a series of thirteen cases, under observation for periods of six months to one and one-half years.

Rosenbach's tuberculin is a product of symbiosis of the tubercle bacillus and *Trichophyton holosericum album*. It differs from other tuberculins in the following respects: In its preparation the harmful substances which have no therapeutic value have been destroyed. The toxicity is considerably less than with other tuberculins, according to some authors 100 times less so than Koch's old tuberculin. As a result, much larger doses may be given without diminishing the therapeutic and immunizing substances. No heat is used in its preparation.

The tuberculin is a perfectly clear brown fluid with a peculiar odor. It is put up in 1 c.c. and 5 c.c. ampules.

Rosenbach's tuberculin is injected either locally into the diseased part or subcutaneously. Where practicable the local injection into the fistulous tract, or into the walls and floor of the focus is to be preferred. For foci which cannot be reached, one must use the ordinary subcutaneous injections.

The initial dose should be from 0.01 to 0.1 c.c. As a rule the dose can be successively increased by 0.1 c.c. unless a severe reaction ensues. The interval between

* From the Mount Sinai Hospital Surgical Service.

1. Rosenbach: Ein neues Tuberculin, Deutsch. med. Wchnschr., 1910, Nos. 33 and 34.

2. Rosenbach: Erfahrungen über die Anwendung des Tuberculin Rosenbach bei chirurgischen Tuberculosen, ibid., 1912, Nos. 12 and 13; Klinische, morphologische und experimentelle Untersuchungen über örtliche, durch örtliche injection bewirkte Tuberculin-reactionen bei Hauttuberculosen, Ztschr. f. Hyg. u. Infections-krankh., 1913, lxxiv.

Among articles by other authors are the following:

Seyberth: Beitrag zur Behandlung der örtlichen Tuberculose mit Tuberculin Rosenbach., Beitr. z. klin. Chir., lxxiv.

Kausch: Erfahrungen über Tuberculin Rosenbach., Deutsch. med. Wchnschr., 1913, No. 6.

Meyer, H.: Zur Behandlung der chirurgischen Tuberculosen mit Tuberculin Rosenbach., Beitr. z. klin. Chir., lxxxv, No. 1.

Elsasser: Erfahrungen mit dem Tuberculin Rosenbach., Deutsch. med. Wchnschr., 1913, No. 25.

Kohler and Plaut: Erfahrungen mit Rosenbach'schem Tuberculin, Ztschr. f. klin. Med., lxxiv, Nos. 3 and 4.

Beck: Die Behandlung der kindlichen Tuberculose mit dem Rosenbach-schen Tuberculin, Ztschr. f. Kinderh., vi, Nos. 5 and 6.

Curschmann: Diagnostische und therapeutische Erfahrungen mit Tuberculin Rosenbach., Verhandl. d. 29. Congr. f. inn. Med.

Iselin: Die Behandlung der chirurgischen Tuberculose, Samml. klin. Vortr., 677 (Chirurgie No. 187).

injections depends on the reaction produced as well as on the condition of the patient. As a rule, injections are repeated from every three to seven days; if severe reaction follows, from every eight to ten days. Violent reactions should be avoided, but mild reactions are rather favorable. Fever in itself does not preclude the use of tuberculin. The maximum dose of an injection should not exceed 1.5 c.c. Should a reaction occur, it is inadvisable to increase the dose at the next injection. A total of from 40 to 60 c.c. of tuberculin generally constitutes a course of treatment. Rosenbach recommends a repetition of the course of treatment some time after.

Reactions may be general or local, or both. There is often a rise of temperature a few hours after injection, which reaches its maximum in about six hours and then returns to normal. It is seldom above 38 C. (100.4 F.). At times the rise in temperature does not occur until the following day, and it may persist for twenty-four hours or longer. Headache and lassitude often accompany the febrile reaction. Local reactions are of two varieties, reactions at the site of the injection, and the reaction in the tuberculous focus. There may be no local reaction, or at the site of injection a painful red induration may develop. The local reaction at the tuberculous focus may manifest itself by redness, pain and a phlegmonous swelling. When the injections are not given locally, the reaction in the tuberculous focus is generally less marked. The cases reported have been treated according to the principles which I have outlined.

REPORT OF CASES

Case 1.—Man, aged 45. Operation, November, 1914. Nephrectomy and ureterectomy for tuberculosis of the left kidney and ureter. Patient applied for treatment in April, 1914. Examination showed two sinuses in left loin which discharged pus in moderate amounts. Patient complained of frequent burning urination, every one to two hours by day and night, with marked dysuria.

Treatment was started with 0.01 c.c. tuberculin; there being no reaction, the dose was increased to 0.1 c.c. a few days later and then increased 0.1 c.c. at each injection every five to eight days until dose of 1 c.c. was reached. No reactions were obtained until this was given. Patient then complained of pain in wound, and had general reaction. After 5 c.c. had been injected improvement was noticed, sinuses discharged less pus and looked healthy, and urinary symptoms abated. Treatment was continued for ten months, during which time 50 c.c. were injected. One sinus has closed; the other is still discharging slightly; urination is less frequent, three or four times at night, every three hours by day.

Comment.—Although this patient showed improvement, a period of ten months had elapsed, during which time the usual methods of treatment employed would most likely have effected a similar result.

Case 2.—Man, aged 36. Operation, January, 1912. Orchidectomy for tuberculous epididymitis. In 1913 nephrectomy for left renal tuberculosis. After operation, discharging sinus in kidney wound, which persisted in spite of all treatment. Ureterectomy eight months after nephrectomy.

At the beginning of tuberculin treatment in April, 1915, there was a discharging sinus in loin, and pyuria from vesical tuberculosis; tubercle bacilli were found in the urine. The patient was in poor general condition. During the course of treatment a tuberculosis of the right epididymis developed; this went on to suppuration. A tuberculous perineal fistula also developed. In the course of ten months, 55 c.c. of Rosenbach's tuberculin were administered; the general condition became progressively worse and death ensued some months later.

Comment.—In this case there was no improvement under treatment; other tuberculous foci developed.

Case 3.—Man, aged 17. Nephrectomy for tuberculosis of right kidney, December, 1911. Treatment was begun in April, 1915. The patient complained of frequent urination for the last few months—four or five times at night, every hour by day, with burning sensation in urethra and bladder. Persistent hematuria for past few weeks. Cystoscopic examination demonstrated a vesical tuberculosis, left kidney normal.

Patient was treated from April, 1915, until the end of June, 1915, during which time he received 8 c.c. of tuberculin. As no improvement was noticed, treatment was discontinued. He then reappeared in September, 1915, with the same symptoms; hematuria more marked. Tuberculin was again administered until the middle of June, the patient receiving a total of 20 c.c. At the end of that time the general condition was good; the urinary condition was unchanged. Cystoscopy showed no improvement in condition of bladder.

Comment.—There was no improvement in the vesical tuberculosis, and consequently in the urinary condition.

Case 4.—Woman, aged 30. Nephrectomy for tuberculosis of right kidney, April 10, 1914. Treatment was begun at the end of April, 1914. At that time there were two discharging sinuses in the wound. The patient complained of frequent burning urination, four or five times at night. After administration of 30 c.c. of Rosenbach's tuberculin in eight months, the sinuses closed. The urinary symptoms, however, persisted. Cystoscopy revealed two tuberculous ulcers in the bladder. These were treated with the high frequency current, after which the symptoms disappeared and the urine became clear.

Comment.—In this patient, after eight months' treatment, the sinuses following nephrectomy closed; the urinary symptoms, however, were uninfluenced by the tuberculin.

Case 5.—Man, aged 29, on admission to hospital in December, 1913, was found to be suffering from genito-urinary tuberculosis, involving the prostate, seminal vesicles, right epididymis and right kidney. Right orchidectomy was performed in December, and in February, 1914, the right kidney and ureter were removed. Later it was found that there was also a tuberculosis of the left kidney. This patient received a total of 28 c.c. of Rosenbach's tuberculin. There was absolutely no improvement in the general or local condition. The urine is now bloody, and contains much pus and many tubercle bacilli. Urination is frequent and accompanied by burning. The patient finally discontinued treatment.

Comment.—This patient showed no improvement at all during the course of treatment.

Case 6.—Woman, aged 38. Operation, 1912. Nephrectomy for tuberculosis of left kidney. A sinus persisted in the renal wound for over a year, at the end of which time the ureter was removed. Since then the sinus has not closed; it is a long, deep, tortuous tract in the left loin which discharges moderately. No urinary symptoms. General condition good. Treatment was started April 24, 1914. The patient received 45 c.c. of Rosenbach's tuberculin, injections being made into the fistulous tract. The discharge from the sinus has diminished considerably, and the tract is now very superficial.

Comment.—In this case a tuberculous sinus which had persisted for over three years was almost closed under tuberculin treatment.

Case 7.—Woman, aged 43. Operation, April, 1914. Nephrectomy for tuberculosis of right kidney. Applied for treatment, May, 1914. There were two discharging sinuses in the wound, and urination was frequent and painful, four to five times at night and from one to two hours by day. A total of 25 c.c. of Rosenbach's tuberculin was administered with no appreciable effect. The sinuses are still open and discharging, and the urinary symptoms are but slightly improved.

Comment.—Five months' treatment with tuberculin failed to close the sinuses or improve the local condition.

Case 8.—Female. Nephrectomy was performed for left renal tuberculosis in 1913; six months later the left ureter was removed on account of a discharging sinus in the renal wound. In May, 1914, the sinus was still open, and the

patient complained of frequent burning urination every hour by day and night. The urine was cloudy, and contained pus and no tubercle bacilli. After six months' treatment with Rosenbach's tuberculin, a total of 22 c.c. having been administered, the sinus was still open and discharging. The urinary symptoms continued uninfluenced. The sinus was then treated with phenol (carbolic acid) and alcohol, while tuberculin was continued. After two months of this treatment the sinus closed; the urinary symptoms persisted. Cystoscopy at this time revealed small hemorrhagic areas scattered over the bladder; no ulcers. The patient was then treated with phenol instillations, and immediately rapid improvement was noticed. She now retains urine three or four hours.

Comment.—Rosenbach tuberculin in this case did not seem to influence the urinary condition. No effect was noticed on the sinus until special local therapy was used.

CASE 9.—Woman, aged 28. Operation, October, 1913. Laparotomy for tuberculosis of adnexa; left salpingo-oophorectomy. Since the operation the patient had had a discharging sinus in the abdominal wound, which persisted in spite of all therapeutic measures. She was treated with Rosenbach's tuberculin from May, 1914, until December, 1914, after which the patient discontinued the treatment. A total of 25 c.c. of Rosenbach's tuberculin had been administered. Injections were given into the wall of the fistulous tract. The sinus was still open and discharging when patient discontinued treatment.

Comment.—Seven months' treatment with tuberculin failed to close a tuberculous sinus in the abdominal wall.

CASE 10.—Man, aged 37. Operation, May, 1914. Nephrectomy for right renal tuberculosis. The patient applied for treatment, June, 1915, complaining of frequent and burning urination, every half to one hour, day and night. The urine was cloudy and contained pus, blood and tubercle bacilli. The general condition was poor. The patient received in all 35 c.c. of tuberculin. During the course of treatment he developed a tuberculosis of the right epididymis, which progressively grew worse, until Roentgen therapy was instituted. Soon after, marked improvement was noticed. Frequency of urination improved; the patient was able to hold urine three hours by day, and voided but twice at night. The general condition was improved, there being a gain of about 5 pounds in weight.

Comment.—In this case the local urinary condition improved; a new tuberculous focus, however, developed during the course of treatment.

CASE 11.—Man, aged 42. Suprapubic cystotomy in May, 1914, for relief of marked vesical symptoms, frequency of urination, dysuria, hematuria and pyuria. The patient had a markedly contracted bladder which made cystoscopy impossible. Tubercle bacilli were not found. Sections removed from the thickened bladder wall showed tuberculosis. In October, 1914, the left kidney was removed for a large hydronephrosis which was not tuberculous in nature. The patient at this time was in rather poor general condition. Urination was painful and frequent, and part of the urine discharged through the suprapubic fistula. A total of 35 c.c. of tuberculin was administered. During the course of the treatment the patient developed a tuberculous epididymis.

Comment.—No improvement was noticed in either local or general condition during the course of the treatment.

CASE 12.—Woman, aged 33. Nephrectomy for tuberculous pyonephrosis of left kidney in December, 1913. Applied for treatment in January, 1914. There was a suppurating sinus in wound. Complained of frequent and burning urination. Cystoscopy revealed presence of tuberculous cystitis. The patient received a total of 45 c.c. of Rosenbach's tuberculin in nine months, at the end of which time very slight improvement was noticed. The sinus is still open and suppurating, although less; the bladder symptoms remain unchanged.

Comment.—Nine months' treatment with tuberculin failed to improve a tuberculous cystitis and lumbar sinus.

CASE 13.—Man, aged 27. Genito-urinary tuberculosis involving both kidneys, bladder and testicles, prostate and seminal vesicles, and also tuberculosis of the lumbar spine. Both testes were removed in July, 1913. The patient applied for treatment, October, 1914, and during the next five months, 25 c.c. of vaccine were administered. No improvement was noticed in general or local condition. The patient died about four months later from generalized tuberculosis.

Comment.—A generalized genito-urinary tuberculosis did not show any improvement after five months' treatment with tuberculin.

SUMMARY

Thirteen cases of urogenital tuberculosis were treated with Rosenbach's tuberculin. Two patients showed improvement; the others (eleven) were absolutely unimproved; a few developed additional tuberculous foci during the course of treatment. As a result of the experiences in this series of cases, it must be concluded that Rosenbach's tuberculin is of no definite value in the treatment of tuberculosis of the genito-urinary tract.

40 East Forty-First Street.

BRUIT OVER THE EYEBALL IN EXOPHTHALMIC GOITER *

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PHILADELPHIA

About two years ago I saw a young girl with exophthalmic goiter. She had all the signs of this polysymptomatic disease, and as the vascular phenomena were especially well marked, it occurred to me to place the stethoscope over the eyeball, whereupon I heard a loud hum or bruit synchronous with the beat of the heart. When I saw her again some weeks later the sound was still present. As I had not heard or read of this sign before in connection with exophthalmic goiter, I naturally thought that I had made an original discovery. My belief was strengthened when I did not find any reference to it in any of the monographs on exophthalmic goiter. A deeper search of the literature, however, showed me that the sign had been discovered before, but had not found its way into even the most recent works on the disease. Dr. Barker[1] does not enumerate it in his comprehensive article in which he cites no less than thirteen eye signs.

Quite recently I saw with Dr. Westcott of Atlantic City a woman, aged 35, suffering from exophthalmic goiter. All the classical signs and symptoms of the disease were present, including a probable substernal goiter and pigmentation of the face. On placing the stethoscope over the eyeball, I heard the bruit most strikingly. Without telling Dr. Westcott anything, I asked him to listen. He heard the sound immediately and was much amazed by it.

The sound when present is easily elicited by placing the bowl of the stethoscope over the eyeball with the lids closed. At first one may be a little confused by a more or less continuous sound or hum which is evidently due to the muscular movements of the eyelids, but very soon one can make out the rhythmic murmur keeping time with the pulse. As I have intimated, the sound has been described by several writers. The first to notice it was Snellen, whose observation was reported by Donders.[2] Duroziez[3] heard a sound over

* Read before the Section in Medicine of the College of Physicians, Philadelphia, Nov. 22, 1915.

1. Barker, L. F.: The Diagnosis of Exophthalmic Goiter, THE JOURNAL A. M. A., Oct. 12, 1907, p. 1235.

2. Donders: Arch. f. Ophth. Albrecht von Graefe's, Berlin, 1871, p. 102.

3. Duroziez: Gaz. d. hôp., June 16, 1874, No. 69, p. 543.

the eyes in exophthalmic goiter, but as he declared that the same bruit was audible over the normal eye, we must accept his own explanation of it: that it was due to the rotary movement of the eyelids, hence not the sound in question. Hueter[4] spoke of a sound audible over the eye with the dermatophone, but as he heard the same sound over the temporal region and as he does not speak of exophthalmic goiter specifically, his observation is not germane to our subject. Schönfeld,[5] in the course of a description of a single case of exophthalmic goiter, says, "On placing the stethoscope over the eye, a hum synchronous with the pulse could be heard." Carrington[6] and Drummond[7] also give clear descriptions of the bruit.

In view of these several observations it is strange that the sign is not mentioned by systematic writers on exophthalmic goiter or by textbooks on diseases of the eye. The bruit, like other signs of exophthalmic goiter, is not constant, and I have looked for it in vain in several quite typical cases of the disease. I have noticed a similar sound several times in aortic insufficiency, which is not surprising since many of the vascular phenomena of the two affections are very similar.

1715 Spruce Street.

EXPERIMENTAL STUDIES IN THE PRODUCTION OF CHRONIC GASTRIC ULCER *

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AND
SAMUEL H. GEIST, M.D.
NEW YORK

Recently streptococci have been isolated from typical indurated ulcers of the stomach, and these when injected into the blood stream of animals have caused ulcerations of the stomach.[1]

The present investigation has for its object the production of an ulcer with a chronically inflamed and indurated edge which exhibits no tendency toward healing. It seemed to us that if organisms isolated from similar ulcers from human stomachs were injected directly into recent defects in the stomach wall of animals, the opportunity for the production of characteristic chronic ulcers would be enhanced.

In a number of animals the healing of a surgically produced defect was first studied. These defects were made by excising tissue from the stomach wall down to and including part of the muscularis, and measured from 1 to 2 cm. in diameter. It was shown that such defects healed completely in from one to two weeks. The epithelium from the neighboring mucous membrane spread across the base of the defect, and, in addition, the contraction of the stomach wall tended to make the defect appreciably smaller. As the mucous membrane approximated, small cystic spaces either directly on the surface or deeper down were formed, probably by epithelial inclusion. These were lined by the columnar epithelium of the surface of the stomach. Such a process was also observed in several human cases in which the opportunity was afforded of studying microscopically a healed ulcer.

The method of investigation was as follows:

Cats were used, and all operative procedures were done under full ether anesthesia. The abdomen was opened in the middle line, the stomach was delivered and an incision into it was made parallel to and near the major curvature so as to enable one to evert the mucous membrane of the stomach along the lesser curvature. The defects were then made as described previously along this line, and the entire base of the defect was then infected with a suspension of the bacteria by injecting it into the tissue layers.

The bacteria used were those obtained by making cultures of human gastric ulcers which were obtained by excision during the course of an operation. The method of culture was that described by Rosenow. These cultures were made by Dr. H. L. Celler, to whom we are indebted for the suspensions used in our experiments. It was possible to cultivate from these ulcers a streptococcus and in a certain number also a yeast.

Some of the defects were infected with strains obtained from a single human ulcer; others with strains obtained from two or more ulcers, and still others with these strains plus the yeast, or with yeast alone. The suspensions were made with bacteria of the third or fourth generation.

The animals were returned to their cages, and the postoperative treatment included immediate feeding which did not differ from that which the animals are accustomed to receive ordinarily. After the first twenty-four or forty-eight hours the animals ate freely. They lost no appreciable weight.

At varying intervals the animals were anesthetized and the abdomen was opened again, usually through the old scar. The stomach was delivered, and either the old gastrotomy wound was reopened, or a new one was made and the condition of the defect observed. When there seemed to be a tendency to heal, the ulcer was again infected as described previously with the same bacteria, and the stomach sutured and returned to the abdomen. In order to watch the progress of the ulcer, it was necessary to repeat this procedure several times in each animal.

Nine animals were used, and in all of them, irrespective of the size or depth of the defect or of the virulence or number of the organisms injected, the surgical defects healed as promptly as those observed in our controls. The series of experiments demonstrates that the presence of the organisms found in human gastric ulcers has no appreciable effect either in giving to the experimentally produced defects the characteristics of the chronic indurated ulcer, or in retarding the healing.

4. Hueter: Centralbl. f. d. med. Wissensch., Dec. 21, 1878, p. 929.
5. Schönfeld: Ein Fall von Morbus Basedowii, Inaug. Diss., Berlin, 1881.
6. Carrington: Tr. Ophth. Soc. United Kingdom, Session 1885-1886, vi., 99.
7. Drummond: Brit. Med. Jour., 1887, i., 1027.

* From the Pathological Laboratory of the Mount Sinai Hospital.
* Work done under tenure of a George Blumenthal, Jr., Fellowship.

1. Rosenow, E. C.: Jour. Infect. Dis., 1915, xviii, 219; Jour. Indiana State Med. Assn., 1915, viii, 465; Elective Localization of Streptococci, THE JOURNAL A. M. A., Nov. 13, 1915, p. 1687.

Prevention of Blindness.—The April issue of the *News Letter* of the National Committee for the Prevention of Blindness contains many interesting items showing the activities of the committee and also the activities of the various states in their work for the prevention of ophthalmia neonatorum and the reduction of blindness and eye injuries in the industries. In many states a vigorous campaign is being carried on having as its object the conservation of vision and the prevention of blindness.

THE DETECTION OF PULSUS ALTERNANS *

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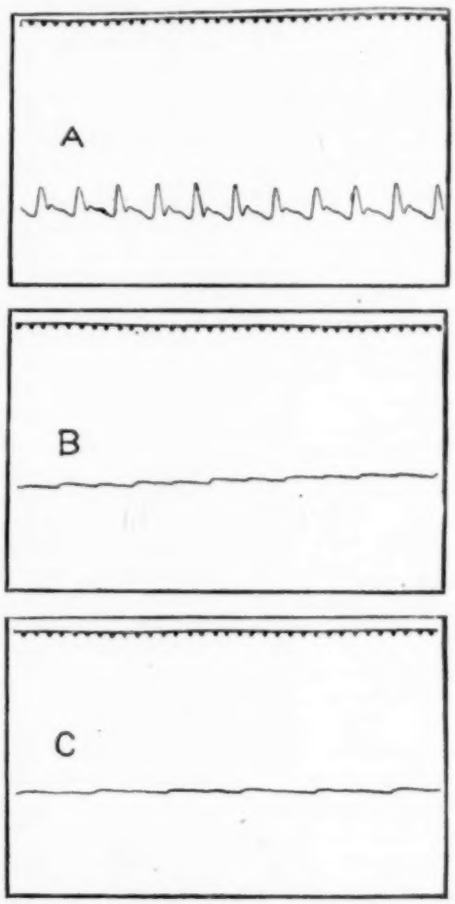
AND
LAWRENCE K. LUNT, M.D.
BOSTON

The ease with which the grave constant type of alternation of the pulse can be detected by the auscultatory method of blood pressure estimation has caused us to investigate the value and error in this method of diagnosing the condition. The use of compression of the brachial artery in augmenting and revealing an alternation of the pulse was first described by Hoffmann[1] in 1906, and has since been mentioned by several writers. Of late Herrick[2] and McGill[3] have written of the use of auscultation over the brachial artery during its compression by the cuff of the sphygmomanometer in the diagnosis of alternation of the pulse. At a pressure just below the systolic reading, the pulse rate is halved if alternation is present. As has been pointed out by several writers, most recently by one of us,[4] the two important conditions which may produce a pulse which seems to be constantly alternating, but which is in reality a pseudo-alternans, are a rapid respiratory rate which is one half or almost one half of the pulse rate, and a bigeminy due to late premature beats alternating with beats of normal origin. The former type of pseudo-alternation may be easily detected by counting the respiratory rate if high and by directing the patient to stop breathing for a few seconds if the rate is one half or close to one half of the pulse rate. The latter type cannot be detected without graphic records. It has therefore been our aim to determine the proportion and importance of these cases of pseudo-alternation as compared with the cases of true alternation of the pulse.



Radial pulse tracings from patient showing very slight pulsus alternans revealed by compression of the brachial artery. Time interval equals 0.2 second. *A*, before application of pressure by cuff of sphygmomanometer; *B*, at a cuff pressure of 184 mm. mercury; *C*, at a cuff pressure of 186 mm. mercury.

During the past year and a half (February, 1916), 129 patients with pulsus alternans have been seen at the Massachusetts General Hospital. Of this number, thirty-seven (or 29 per cent.) showed the condition constantly, and the remainder only after premature beats. Since several minutes sometimes elapsed between the appearance of these premature beats, the use of the auscultatory blood pressure method was more laborious and uncertain than the use of the sphygmograph. A constant alternation has not been found by auscultation in some of the patients who showed by sphygmogram slight to moderate alternation only after premature beats.

Bigeminy due to very late premature contractions, so late as to be confused with alternation of the pulse, was found in seven patients during the course of the same year and a half. The proportion of cases with premature beat pseudo-alternation to cases with true constant alternation is 1 : 5.3. About once in six times, therefore, we would make the error of confusing pseudo-alternation with true alternation in using the auscultatory blood pressure method. It may be observed that not only may a bigeminal pulse be transient and variable in its occurrence in a patient, but also alternation itself found on one day may be absent on the next day or even several hours later.

The importance of the error of confusing premature beat pseudo-alternation with true alternation has not been great in our cases. Three of the seven patients with the bigeminal pseudo-alternation showed at other times true alternation, and so had a grave prognosis. One other with syphilitic aortitis has died and the other three all showed serious heart damage, from syphilis, rheumatic infection and arteriosclerosis, respectively. Gallavardin and Gravier[5] consider the retarded premature beat as a possible index of cardiac weakness, in the same class perhaps with alternation itself in pointing to myocardial exhaustion. They have found very late premature beats only in patients with alternation of the pulse.

The advantages of the auscultatory blood pressure method of finding constant alternation are the ease of the procedure and the fact that, like Gravier's[6] delicate bimanual method, it affords the earliest means of detecting the condition in patients who show only a very slight degree. Recently, in the wards of the Massachusetts General Hospital, constant alternation of the pulse has been easily and frequently detected by the interns during their estimation of blood pressure in patients, and in two cases the condition was so discovered before it could be detected by the sphygmograph. Usually differences of 6 mm. or more of mercury pressure between the beats appear in the ordinary radial pulse tracing, but smaller differences in pressure are not evident in the tracing. The accompanying illustration shows three strips of radial pulse tracing taken one morning with the Mackenzie ink polygraph from a patient with a weak heart. The

* From the Medical Service of the Massachusetts General Hospital.

1. Hoffmann, A.: München. med. Wchnschr., 1906, liii, 1977.
2. Herrick, J. B.: Pulsus Alternans Detected by the Sphygmomanometer, THE JOURNAL A. M. A., Feb. 27, 1915, p. 739.
3. McGill, Caroline: The Determination of Pulsus Alternans by the Sphygmomanometer, THE JOURNAL A. M. A., June 19, 1915, p. 2051.
4. White, P. D.: Am. Jour. Med. Sc., 1915, cl, 82.
5. Gallavardin, L., and Gravier, L.: Lyon méd., 1914, p. 830.
6. Gravier, L.: L'alternance du cœur, étude critique et clinique, Paris, 1914.

systolic blood pressure was 188 mm. of mercury. No alternation of the pulse could be felt at the wrist, and in the radial tracing (*A*), alternation was not evident. At a brachial cuff pressure of 184 mm. of mercury, the alternation could be heard with the stethoscope over the brachial artery, and became evident on the radial tracing (*B*). At a pressure of 186 mm. of mercury the pulse rate was halved; in the third tracing (*C*) at times there is the merest trace of the small beat much retarded. At 188 mm. of mercury pressure the pulse was entirely occluded. A few days after these records were obtained, a pulse tracing showed definite constant pulsus alternans.

SUMMARY

In the attempt to detect pulsus alternans by the auscultatory blood pressure method, we have found that in our cases the method is often impracticable in the postpremature beat type of alternation, which comprises the majority (70 per cent.) of the cases, but that in the graver type, that of constant alternation, it is a useful procedure. An error, however, in this method of detecting alternation of the pulse must be recognized, for about once in six times there is a bigeminal pseudo-alternation instead of a true alternation. This error is relatively unimportant in our series because of the serious myocardial damage present in the pseudo-alternating patients.

The advantages of the method lie in the ease of the procedure, and in the fact that it affords the earliest means of detecting constant alternation in patients who exhibit it to only a very slight degree.

THE LABORATORY EXAMINATION OF MATERIAL IN A CASE OF SUSPECTED SMALLPOX

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BERKELEY, CALIF.

A laboratory method for the diagnosis of smallpox based on the skin reactions of immune rabbits was suggested recently by Force and Beckwith.[1] The following case illustrates the value of this method as an aid to public health administration:

During the last week of January, 1916, Dr. J. G. Cumming, director of the Bureau of Communicable Diseases of the California State Board of Health, was requested by the health officer of Stockton to give an opinion regarding the presence of smallpox in a patient who was being held in quarantine in that city. Dr. Cumming at once visited Stockton, investigated the case, and secured the following history:

The patient had been treated with bromids for some time preceding the appearance of a slight eruption. As soon as the eruption appeared, the quantity of the drug was reduced, and, as the eruption did not clear up, the drug was stopped. Several days after this the eruption became exacerbated and took on a pustular character which so resembled that of smallpox that the patient was quarantined.

After an examination of the patient, Dr. Cumming collected some of the pustular material in a capillary tube and brought it to me with the request that it be tested on smallpox immune animals. The material, which in all respects resembled ordinary pus, was diluted with saline and inoculated intradermally into two immune rabbits and a normal control. The inoculations were made on the right sides of the animals. The left sides were at the same time inoculated with commercial vaccine virus of low potency. Spots for these inoculations had been shaved on the day preceding the application of the test in order that the trauma due to shaving might disappear before the appearance of the reaction. The following results were observed:

Rabbit 4 was immunized against smallpox, March 2, 1914. Inoculated intradermally, Feb. 1, 1916, with material from the Stockton patient controlled by an inoculation of commercial virus. Twenty-four hours after inoculation there was no reaction from the suspected material, while the control inoculation showed an areola of 10 mm. with a central yellowish papule. The conditions persisted unchanged for another day, and then the control spot rapidly faded. At no time was there any evidence of reaction on the site of the inoculation with the suspected material.

Rabbit 8, immunized, March 25, 1914, was inoculated, Feb. 1, 1916, coincidently with Rabbit 4. No reaction occurred at any time at the site of inoculation with the suspected material. Control inoculation with vaccine virus showed at the end of twenty-four hours an areola of 11.8 mm. with marked induration and a yellowish spot measuring 3.5 mm. in diameter. At the end of forty-eight hours the areola measured 15.5 mm., the induration 9.5 mm., and the yellow spot 3.6 mm. The reaction faded during the next succeeding days.

Rabbit 13, a normal animal, was inoculated coincidently with Rabbits 4 and 8. No reaction occurred at any time on the site of the inoculation with the suspected material. A small nodule, 7.8 mm., appeared at the site of the inoculation with commercial virus, but no redness, except on the second day, when an areola of 16 mm. appeared. This areola faded at the end of twenty-four hours. The vaccine virus used was evidently not of sufficient potency to produce a typical vaccine vesicle in this animal, though able to produce characteristic allergic reactions in the others.

Since even an attenuated vaccine virus produced immunity reactions in the smallpox immune rabbits, it follows that the absence of such reactions at the sites of inoculation with the suspected material indicates that the material was not from a smallpox patient. Accordingly, forty-eight hours after the beginning of the test, we were able to notify the health officer of Stockton that the case was not one of smallpox and that the patient might be released from quarantine as such.

This experience demonstrates the practicability of the method as an aid in public health procedure, and also reminds us that inert vaccine virus is capable of producing reactions of immunity.

1. Force, J. N., and Beckwith, Helen L.: A Laboratory Method for the Diagnosis of Smallpox, THE JOURNAL A. M. A., Aug. 14, 1915, p. 588.

Slate Pencil in Cecum.—A woman, aged 30, operated on nearly a year ago for a double purulent salpingitis and a large left ovarian pus sac, with uneventful recovery, for several months had had irregular spells of vomiting pain in the right iliac fossa, which radiated down the right thigh and into the right labium majus. The temperature at times was slightly above normal. She had been operated on recently because of a small tumor in the right iliac fossa, vomiting and pain. Operation revealed a fixed edematous cecum and ascending colon. The enlarged retrocecal glands produced the tumor. A slate pencil 5¼ inches in length was finally removed by nicking the cecum. The sharp end of the pencil was embedded in the wall of the cecum; the remainder was free and was well caked with feces and débris, which were removed by boiling it in water. The patient, on being questioned during her convalescence, stated that she had tried to abort herself when partly intoxicated some years ago, and had forgotten that she had not recovered her instrument.—F. R. WILLIAMS, M.D., Victoria, Texas.

An Attribute of Knowledge.—Knowledge is that which, next to virtue, truly and essentially raises one man above another.—Addison.

New Instruments and Suggestions

AN ADJUSTABLE BRADFORD FRAME

ROBERT D. MADDOX, M.D., CINCINNATI

A method of constructing Bradford and Whitman frames which overcomes some of the difficulties of preparation and use, without complicating the apparatus or greatly increasing the cost, has long been desirable. To fulfil these requirements, I have made a modification which, in dimensions and appearance, is essentially the accepted form of rectangular gaspipe frame for securing immobilization in recumbency. Each side of the frame is of one length of iron pipe, joined

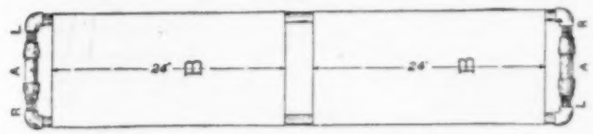


Fig. 1.—Adjustable Bradford frame.

at the ends by pieces made on the principle of the turnbuckle, so that the width can be varied. The canvas stretcher pieces are made in tubular form, and, when slipped over the ends of the frame, can be stretched tight by expanding the frame instead of the usual lacing (Fig. 1).

The side pieces are made in duplicate, of ½ or ¾ inch pipe, 54 or 72 inches long, slightly bowed outward to draw the canvas tight in the center, and malleable iron elbows are fitted to each end. Fastened in these elbows, extending in the same plane but at right angles to the side pieces, are the threaded end pieces. These are of ½ or ¾ inch pipe, 2 or 3 inches long and threaded the entire length, one right hand, and one left hand (Fig. 1, *R* and *L*).

The turnbuckle sleeves are duplicates, from 4 to 14 inches long over all, and made of pipe sufficiently large to clear the threaded end pieces, with reducing fittings on each end, threaded right hand and left hand, to engage the threaded end pieces. A ⅜ inch hole is drilled through the pipe in the center to hold the loose bar for turning (Fig. 1, *A*, *A*).

The canvas stretcher pieces are made of heavy cotton duck, with the selvage edge turned back for a reinforcing hem at the center end. The slides are overlapped and joined by a heavy seam, making a continuous band or tube of the canvas. When finished, the lengths of these pieces should be about 2½ inches less than half the length of the sides of

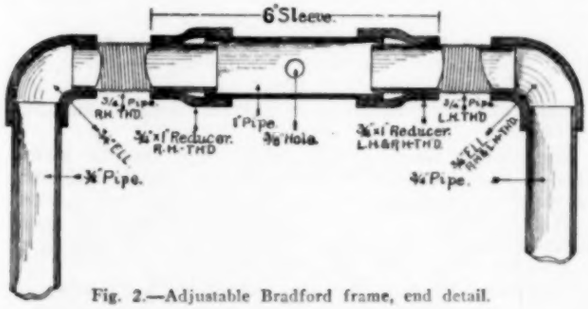


Fig. 2.—Adjustable Bradford frame, end detail.

the frame, and the width from 8 to 18 inches, varying by half an inch up to 14 inches. They should be made in sets of four to permit changing, and the size should be plainly marked on each stretcher piece (Fig. 1, *B*, *B*).

To assemble the frame, the side pieces are laid parallel, an end piece threaded right hand opposite to an end piece threaded left hand, and the turnbuckle sleeves placed between them so that the right hand reducer will engage the right hand end piece, and the left hand reducer the left hand end piece at the same time. The sleeves are then turned equally and the sides are brought together so that the stretcher pieces can be slipped over each end. The sleeves are then turned in the opposite direction, forcing the sides apart and stretching the canvas.

As all parts of each size are interchangeable, frames of any width can be quickly assembled to meet the need of the individual patient by using sleeves of different lengths and stretcher pieces of proper width, a 4 inch sleeve expanding the 57 inch frame from 7 to 10 inches, and a 6 inch sleeve expanding the 75 inch frame from 9½ to 13½ inches, without the sleeves being changed.

The length of the frames is the maximum that can be placed on ordinary large or small hospital beds; but the fact that this length often exceeds the length of the patient by more than 4 inches does not appear to be of importance.

This type of frame has been used at the Episcopal Hospital for Children, Cincinnati, for more than a year, and it has been found that it can be prepared and the canvas changed and kept tight more easily than those of the usual pattern.

4 West Seventh Street.

ASEPTIPHONE: AN ANTISEPTIC MOUTHPIECE FOR THE TELEPHONE

E. M. JENKINS, M.D., ITALY, TEXAS

The device shown in the accompanying illustration is designed to disinfect itself automatically and thereby minimize the danger of spreading disease through this source. The instrument consists of several shells. The inner shell has a threaded portion for attaching to transmitter in place of the old mouthpiece, an annular flange extending laterally from the outer end of the inner shell so as to confine and embrace the outer shells. In the space between the outer and intermediate shells is a pad with disinfectant solution. From this the fumes are disseminated, passing through an air chamber formed by the intermediate and inner shells, then out through the opening of the inner shells.

Antiseptic mouthpiece for telephone.

A TRANSILLUMINATOR WITH NEW POSSIBILITIES

WILLIAM G. REEDER, M.D., Chicago

The transilluminator has become an important diagnostic agent in otorhinology. Through its use, pathologic changes in many of the accessory nasal cavities have become visualized. While the full significance of the picture it portrays may be difficult to interpret, it rarely deceives as to the fundamental facts desired—the presence or absence of disease. The instruments now in common usage require the electric current, and some a rheostat. They are expensive and of a size that does not permit them to be used within small cavities. I desire to call attention to an instrument which not only overcomes some of these objectionable features, but also, on account of its size and shape, has a far broader field of usefulness.

It consists of a small dry cell battery mounted in a case similar to an ordinary flashlight, which has a small but powerful lamp mounted at the free end of a rodlike projection and protected by removable caps, one fenestrated at the side, the other at the end.

To illuminate the antrum of Highmore, the lamp is carried upward between the lip and the alveolar process until it rests

firmly on the anterior surface of the superior maxillary bone at a point directly above the root of the second premolar tooth. The light rays now penetrate the thin anterior wall of the antrum, traverse the antral box, and emerge freely through the likewise thin floor of the orbit, illuminating, under normal conditions, the eliptic area bounded by the infra-orbital margin below and the eyeball above. The pupil of the eye will also show a red reflex in health. This position of the lamp has distinct advantages over the mouth position, as the rays of light pass through no tissue other than the walls of the antrum, thus eliminating the possibility of disease of other structures disturbing the picture. The walls traversed by the light when in this position are the thinner walls of the antrum, and they vary but little in thickness in different individuals, whereas all other walls may vary greatly, often making transillumination uncertain and indistinct. The presence of artificial denture does not interfere with this method.

The illumination of the frontal sinus is best accomplished by placing the lamp with the fenestrated cap well underneath the overhanging supra-orbital margin just external to the nasal process of the frontal bone and in contact with the roof of the orbit. This gives a brilliant and extensive illumination of the frontal sinus in health, so that the edges of the sinus in many cases may be perfectly outlined; indeed, often the location of partitions may be seen. Here, again, the light traverses the thin floor of the frontal sinus, and is not influenced by the varying thickness of the external table of the skull.

This instrument is a valuable mastoid illuminator. Its small size permits it to be passed into the osseous external auditory meatus of most persons, and by turning the illuminating window toward the posterior wall the mastoid cells are brilliantly illuminated. When the auditory meatus is small, the open end cap is used, allowing only the tip of the lamp to project beyond its free border in order that the meatus may be snugly fitted, and preventing return rays of light from obscuring the picture. It may be used also by placing the lamp, with the rubber cap projecting slightly beyond it, against the external surface of the mastoid process and viewing the light that passes through the posterior osseous wall of the external auditory meatus.

The presence or absence of pathologic changes in the lacrimal sac may be elicited by this illuminator. Without the cap the lamp is passed into the nostril until it rests on the anterior end of the middle turbinate. In the presence of disease of the sac, a shadow is cast through the skin surface over the diseased area.

New transilluminator.

Likewise the lamp may be used in some cases to indicate disease of the anterior and middle ethmoidal cells, particularly in cases in which, with the added space secured by the use of cocain and epinephrin, the lamp may be passed between the middle turbinate and the septum. Disease of these structures is indicated by a shadow at the nasal portion of the orbit, and loss of the pupillary reflex.

This instrument is of value as a nasal diagnostic lamp. It is inserted into one nostril, and the interior of the nasal chambers of the other side is viewed through the vestibule opened by a nasal speculum. An unusual view of the interior of the nose may thus be obtained without the use of a head mirror.

This instrument is conveniently carried, and is ideal for bedside use and in homes where other means of illumination are not available. On account of its simplicity and its practicability, it is an instrument that will appeal to the general practitioner as well as the specialist.

Marshall Field Annex Building.

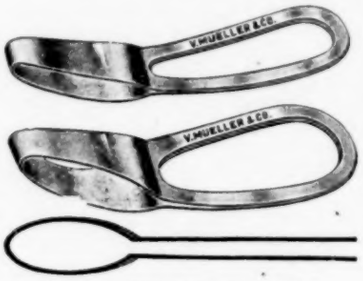
NASAL SEPTUM CLAMP OR SPLINT

TO BE USED AFTER SUBMUCOUS RESECTIONS IN PLACE OF PACKING

FRANK C. TODD, M.D., MINNEAPOLIS

The illustration represents a nasal septum clamp or splint which I have been using for the past year following submucous resection of the septum.

The clamp is placed in the nose immediately after the operation, and left in place for one or two days. No packing is used whatever, even though turbinates have been operated on at the same time. I find there is less bleeding than was the case when packing was used.



Nasal septum clamp or splint.

This device was shown before the Section on Laryngology, Otology and Rhinology at the San Francisco Session. It is made of German silver, so constructed that when inserted, with a wing on each side of the septum, a slight spring action of the two wings holds the mucous membranes together. The clamp is much more comfortable than packing, and is more easily applied and removed.

My invariable custom, as was the case preceding the use of these clamps, is to keep the patient in the hospital at least two days after the operation.

These clamps come in two sizes, but the smaller size is rarely used. They are manufactured by V. Mueller & Co.

A SIMPLE METHOD OF QUANTITATIVE DETERMINATION OF COMPLEMENT FIXATION

J. O. HIRSCHFELDER, M.D., San Francisco

In the complement fixation test the purpose is to determine the presence or absence in the serum to be tested of a body which on uniting with the antigen will prevent the complement from combining with the lysin to dissolve the blood cells.

In the antigen we have a complement fixing body (*A*) and a substance (*B*) which unites with the antibody in the serum to form a complement fixing substance. Similarly, in the serum we have a complement fixing body (*C*) and the antibody (*D*). The problem is to find the presence or absence of the antigenic substance and the specific antibody (*B* plus *D*) which on uniting fix the complement. If we wish to know how much of the latter combination is present, it is evident that we must first determine the amount of the anticomplementary action of the antigen and of the serum alone, as these vary.

The complement present in the serum of different guinea-pigs is highly variable, and, furthermore, rapidly diminishes on standing, even when kept in the ice chest. It is a simple matter, however, to determine the anticomplementary action simultaneously of the antigen (*A*), serum (*C*) and of the two mixed (*B* plus *D*).

In practice, the method used is the following: (1) Increasing quantities of complement; (2) increasing quantities of complement with a measured quantity of serum; (3) increasing quantities of complement with a measured quantity of antigen, and (4) increasing quantities of complement with the quantities of serum and antigen used in 2 and 3 mixed are simultaneously incubated at 37 C. (98.6 F.) for one hour. To each of these tubes the same quantity of cells and lysin are then added, and all are incubated for two hours. At the end of that time they are read, and the least amount of complement necessary to dissolve the cells (termed the system) is determined.

The amount of complement necessary to dissolve the cells in presence of the serum minus the amount of the system

gives the anticomplementary value of the serum (*C*), and in the same manner the anticomplementary value of the antigen (*A*) is determined.

To measure the anticomplementary value of the serum plus antigen, that is, complement binding value of antigen and serum mixed (*B* plus *D*) from the quantity of complement necessary to dissolve the cells, the amount of the system plus the anticomplementary values of Serum *C* and Antigen *A* alone are deducted. This gives the value of the mixture in terms of complement. As the value of the complement varies and the number of cells used from day to day may be different, the calculation can be made in percentages of the amount of complement used in the system, this being the complementary unit.

By taking an excess of antigen, the complementary value of the antibody in the serum tested may be readily calculated, and similarly the complementary value of the antigen by using an excess of the specific serum. If a large number of tests are made with gradually increasing quantities of complement, the titration may be made as accurately as may be desired.

By employing this method it will not be possible to get different reports from different laboratories of the Wassermann reaction with the same blood, as seems to be frequently the case now.

The antibodies of the same patient may be compared from time to time. It will probably be of value to the physician to know whether the antibodies in the blood of his patient are increasing or diminishing.

275 Post Street.

Therapeutics

MEDICATION

(*Continued from page 1307*)

Let Us Aim to Improve our Medicinal Treatment of Disease

Toward that end, will you prescribe the pills made by a Detroit manufacturer?

CACTUS COMPOUND PILLS (HEART TONIC)

Each pill is said to contain:

"Cactus grandiflorus	½ gr.
Sparteine sulphate	1/40 gr.
Digitalin, pure (German)	1/125 gr.
Strychnine sulphate	1/500 gr.
Glonoin (nitroglycerin)	1/500 gr.
Strophanthin	1/5000 gr."

1. There is no authentic proof that cactus has any physiologic, pharmacologic or clinical activity; on the contrary, exhaustive investigations have established its worthlessness.

2. The U. S. P. dose of spartein sulphate is 1/6 grain. Even if spartein could be considered as a cardiac tonic, which is doubtful, a dose of 1/40 grain would be too small to have any activity whatever.

3. The dose of pure German digitalin is stated by some authorities to be from 1/60 to 1/30 grain; therefore, 1/125 grain is a small dose. This digitalin, which is probably a mixture of glucosids, does not represent the whole activity of digitalis, and has not been found to be as valuable in cardiac insufficiency as is digitalis.

4. The U. S. P. dose of strychnin sulphate is 1/60 grain. Of course, 1/40 and 1/30 grain are often considered tonic and stimulant doses, and in emergencies much larger doses are often administered. Therefore, 1/500 grain of strychnin sulphate would be almost as negligible as a dose of charcoal or oyster shell.

5. Granted that this unstable drug is still present when the pill reaches the patient, 1/500 grain of nitroglycerin is a small dose. Its activity as a vasodilator, not as a cardiac tonic, especially when offered in a pill form for slow solubility and therefore slow absorption, would be negligible.

6. The strophanthin of the pharmacopeia is a glucosid, and the dose is 1/200 grain. If the foregoing is the crystalline strophanthin of Thom, the dose is about 1/400 grain. A dose of strophanthin of 1/5000 grain is ridiculously small. In the next place, strophanthin is of no value as a cardiac tonic in heart weakness, when administered by mouth.

The combination is absolute nonsense. Lines may be drawn through every one of the ingredients except digitalin, and the treatment then becomes one of digitalis. The selling name of "Cactus Compound Pills" is a misnomer, as the only activity of the pill would be that of a small dose of some digitalis glucosids. If it were argued that it was intended to give this small dose frequently, it should be remembered that digitalis acts very slowly, and the full physiologic effect would not be reached from a single dose until after twelve hours, at least, and sometimes not until after twenty-four. Digitalis also is slowly excreted. Therefore, to give digitalis frequently for any length of time is inexcusable medication. For the nitroglycerin to be effective, it should be given in a small dose frequently, as every two or three hours. Such frequent dosage would be inexcusable for the digitalin.

We will leave it to the mathematician and the pharmacologist to decide how many and how frequent doses of 1/500 grain of strychnin it would take for an adult to receive cardiac stimulation from it, and then to decide how much digitalin was in the system.

This preparation is an illustration of how inert or worthless drugs are perpetuated. At one time it was thought that cactus had a therapeutic value; during that time many "specialties" and proprietaries bearing its name were placed on the market. These continue to be sold, although the drug is now known to be worthless.

(*To be continued*)

The Increase of Lunacy.—The board of control of lunacy in England has recently issued a report containing some very striking charts on the increase of lunacy. They show that since the year 1859 a marked increase in lunacy has occurred in all classes of the community, but especially in the pauper classes. The first chart deals with the total number of insane persons in England and Wales reported to be under care on January 1 in each year. Thus, in 1859 there were 36,480 persons of all classes under control; in 1899, 100,000, and in 1915, 140,466. In the same period private lunatics rose from 4,397 to 9,968. The second chart deals with the comparative variations in the proportion of the insane in England and Wales to the total population, and shows that while in 1859 the ratio was 18.5 per 10,000, all classes, it had risen in 1915 to 37.7. But these figures cannot be taken absolutely, for the diagnosis of lunacy is much more accurate today than at the beginning of the period mentioned, and many cases are diagnosed and placed under control which formerly would have been ignored. However, the fact that there has been an increase is not open to doubt. As to its cause, many theories have been advanced and none is entirely satisfactory. Among them are syphilis, alcohol, tobacco, sexual excess, overstrain and overexcitement. The latest theory is that of Dr. Mercier, the well known alienist, who considers that insanity is sometimes due to excessive indulgence in some foodstuff, such as fat or sugar.

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SATURDAY, APRIL 29, 1916

THE DEATH RATE AND THE BIRTH RATE

During the past several decades the general death rate has steadily fallen in all civilized countries. If dependable statistics were available, they would probably confirm what the most reliable evidence now obtainable indicates, that this perceptible and progressive decline in the death rate is a relatively recent phenomenon. The figures for the old city of New York have been known for more than a century.[1] They show that the decennial death rate rose for the forty years following 1810-1819, but has been falling since the Civil War and is now much lower than ever before. This recent trend is fairly characteristic of other places in which conditions are somewhat similar. It does not necessarily follow that the gains are distributed evenly up and down the scale of years. On the contrary, despite the fact that there has been an unquestionable gain in the vitality of the younger age groups, there appears to be with us a rising mortality in elderly life — a feature not characteristic of the mortality statistics of the leading European countries, but almost peculiar to the United States.[2]

The cause for this apparent increase in mortality at higher ages in opposition to the general trend in other countries has evoked various explanations. Rittenhouse[3] has stated that we must admit that our civilization, in addition to its blessings, has brought us certain habits and hazards of life and degenerative influences which promote physical deterioration. As he has expressed it, notwithstanding our progress in prevention, the physically substandard and low-powered group, which numbers millions, is apparently increasing abnormally. The decline in the general death rate and increase in the average length of life are due, not to an increase in the vital strength of the people, but to the fact that we are learning how to step around certain dangers — the germ diseases. The death rate from the wearing out of the organs is steadily increasing. Fisher and Fisk[2] contend that unless this increased mortality is due to some unknown biologic influence or to the amalgamation of the various races which constitute our population, it must be ascribed, in a broad sense, to lack of adaptation to our rapidly developing civilization.

However these facts may ultimately be explained, another factor in our national life is equally interesting. It is said that as a rule influences which tend to increase deaths also tend to decrease births, and influences which tend to decrease deaths tend to increase births. But it is freely conceded that our birth rate is declining. Although there has been, in general, a falling death rate, obviously it cannot proceed very much farther. "Modern hygiene may postpone the death of man, but it cannot keep him alive forever." The ratio of decrease in the birth rate is not known because, as Rittenhouse has expressed it, we have not yet reached that stage of intelligence which grasps the importance of keeping a record of the births and deaths in all sections of our country.

With limitations to the decline in the death rate set by natural circumstances, the continuation in the fall in birth rate raises problems of national importance. Of course, up to a certain point the decline in birth rate may well have been an accompaniment or natural result of the decline in death rate. But the change has apparently proceeded beyond the point at which the proper reciprocal relationship between births and deaths holds. Willcox[1] has stated that one of the main duties of statistics is to point out the trend of the stream along which society is moving, and thus perhaps arouse a desire for a change. Accordingly, he has calculated that if changes in the birth rate like those which have been in progress in the United States since 1850 were to continue unchecked for a century and a half, there would be no children left.

It is, of course, futile to offer predictions in a serious sense; for there are too many variables which may change the continuance of any movement into the distant future. Nevertheless it seems worth while to inquire into the possible causes of the current falling tendency in the birth rate. There is little basis for the spencerian doctrine that the increasing drain of civilization on the nervous and other physiologic activities decreases the surplus left for developmental functions. Billings was probably nearer the truth when he concluded that the most important factor in the change is the deliberate and voluntary avoidance or prevention of childbearing on the part of a steadily increasing number of married people who prefer to have few children.

The question as to whether a decrease in the birth rate is desirable may be debatable. It has been said that it is this feature, and only this, which has enabled

1. This statement and other facts in relation to this topic are taken from the paper read by Willcox of Cornell University before Section VIII, Public Health and Medical Science, Second Pan-American Scientific Congress, Washington, D. C., December, 1915 (Willcox, W. F.: Fewer Births and Deaths: What do They Mean? Jour. Heredity, 1916, vii, 119).

2. Fisher, Irving, and Fisk, E. L.: How to Live, New York, 1915, p. 281.

3. Rittenhouse, E. E.: National Vitality and National Defense, Why a National Vitality Commission is Needed, address before Am. Assn. Advancement of Science, Columbus Meeting, Dec. 29, 1915.

mankind to retain the advantages promised by the much desired decline in the death rate. The individual, as Willcox has pointed out, desires a chance for a long life with its opportunities. Society is concerned that enough children should be born to secure its own permanence and a reasonable increase. Inasmuch as the death rate cannot be expected to fall much below where it now stands in healthy districts, and there is no such natural limit to the fall in birth rate, one problem of national vitality and progress becomes clear. The question of normal birth rate and natural increase in the best stock of our population falls within the province of public health inquiry. Without committing ourselves to any stand in relation to the claims of so-called eugenics, we may formulate the general question of race protection in the words of Willcox: Persons interested in maintaining the numbers and improving the quality of the population should aim not merely or mainly at a continued reduction of the general death rate but also at the general education of public opinion toward a readjustment of the birth rate in various classes which will enable society to gain from its best strains more than it does under present conditions.

THE UTILIZATION OF INTRAVENOUSLY INJECTED FAT

The question as to how the individual nutrients are utilized in the metabolic processes of the body has given rise to considerable discussion. In the case of proteins, interest is centered at present on the amino-acids which are known to be derived from them in the digestive changes within the alimentary canal, and which have now been traced farther into the circulation and tissues on their migrations through the organism. The carbohydrates are likewise known to be distributed in the form of glucose, and thus readily burned up promptly whenever they are available and a demand for energy is made. It has not been so clear whether fats are thus directly utilized for the needs of the body. There is considerable indirect evidence which is rather conclusive regarding such a possibility. For example, after a few days' starvation the body may be regarded as practically free from stored carbohydrate. Under such circumstances the fats and proteins alone remain as a source of energy. Direct investigation of the metabolism in prolonged starvation has shown that the protein destroyed is far too small in such cases to account for the heat production. By exclusion it must be assumed that, under these circumstances at least, the fats stored in the body participate in the decompositions that contribute heat and energy for the performance of muscular work.

The degree to which the different classes of foodstuffs—the proteins, fats and carbohydrates—are called on to supply energy is further indicated by the respiratory quotient. This numerical quantity is simply the ratio of the volume of carbon dioxid given out to that of the oxygen consumed. Carbohydrates, as, for example, those having the formula of $C_6H_{12}O_6$, may be looked on as consisting of carbon plus water; so that if these were the only substances oxidized, the oxygen would have been entirely used to combine with the carbon, and the respiratory quotient would be unity. In fats, however, there is some hydrogen besides carbon to be oxidized. Part of the oxygen taken up will be used for the oxidation of the hydrogen, so that there is less carbon dioxid given out than that equivalent to the oxygen taken in. The respiratory quotient of fats, therefore, is less than unity.

It has been known for some time, from studies of the respiratory quotient, that if the body has previously supplied the greater part of its needs at the expense of fats, it will do so during muscular work. Studies in this field have justified the belief that the tissues of the body are able to obtain their energy by direct utilization of the fats which they contain rather than by any devious path in which carbohydrate is first formed from the fat. Murlin and Riche[1] of the Cornell University Medical College have further clearly demonstrated that fat injected directly into the circulation can be oxidized at once. When, for example, an intravenous injection of a 3 per cent. emulsion of lard oil was made in animals, the heat production was found to rise promptly; and the respiratory quotient fell as the fat became concentrated in the blood, thus indicating that the injected fat actually burns. These experimentally ascertained facts are not without interest in relation to the proposed use of fat emulsion for nutritive purposes by direct subcutaneous or other parenteral paths, without previous sojourn in the alimentary tract.

THE OPIUM ALKALOIDS AND PAIN SENSATION

A decrease in pain perception is the most important physiologic effect of morphin and some of its associated alkaloids of the opium series. Lately not a little attention has been directed scientifically to the differentiation of the pharmacologic action of the various individual substances which are obtained from the dried juice of the poppy. For many years the galenic preparations of opium have been contrasted in their comparative potency and specific effects with the alleged effects of the constituent alkaloids. The medicinal drug opium is required to contain 10 per cent. of morphin. Opium on the market may contain from 3 to 18 per cent. of morphin, 1 to 10 per cent. of narcotin and 1 to 2 per cent. of codein, with traces of the large number of other alkaloids which have been isolated from this mixture. There can no longer be any doubt that these have individual peculiarities of phar-

1. Murlin, J. R., and Riche, J. A.: Blood Fat in Relation to Heat Production and Depth of Narcosis, Proc. Soc. Exper. Biol. and Med., 1915, xiii, 7.

macologic action that are often distinct and characteristic. The question of the possible antagonisms of the opium alkaloids has often been raised; and more recently the possibility of unique synergistic actions has been much debated. This explains the introduction and occasional exploitation of various mixtures of morphin with different percentages of other alkaloids.

It always marks a step in advance in any branch of the natural or physical sciences when it becomes possible to apply quantitative methods of study to the phenomena involved. Individual judgments, errors of observation, and subjective impressions can then be eliminated or corrected by a purely objective mode of investigation. Guesswork gives way to mathematical accuracy. This explains the enormous advantage which came with the introduction of the registering thermometer in medicine. Heartbeats can readily be counted with correctness; and now blood pressure is a value determinable with considerable precision. In the field of the nervous system it has been less easy to record symptoms or responses with equal precision. The psychic phenomena are singularly subject to the personal equation.

Working in part under the auspices of the Council on Pharmacy and Chemistry of the American Medical Association, at the pharmacologic laboratory of the Johns Hopkins University, Macht[1] and his co-workers have managed to make quantitative and scientifically accurate comparisons of the analgesic properties of various opium alkaloids. With suitably trained human subjects they succeeded in demonstrating a sufficient constancy in the threshold of pain sensation. Through numerous observations on the electrocutaneous sensation with the induction current it was established that the normal pain threshold remains surprisingly constant for many hours in succession; through a series of other experiments, lasting over twenty-five hours each, the diurnal and nocturnal variations were found to be very slight. After the normal pain threshold in any given experiment had been determined, a drug was administered by subcutaneous or intramuscular injection, and, after its absorption, repeated readings were made. In this way a rise or fall in the pain threshold, or an analgesic or hyperalgesic effect, respectively, was detected and measured. Macht points out that even the scientifically educated subject could scarcely have acquired a subjective bias as to the outcome of the comparative action of the opium alkaloids in respect to cutaneous analgesia, owing to the widely divergent published views of previous investigators. Thus, Claude Bernard[2] regarded narcein, an inert substance according to the majority of investigators, as a powerful narcotic; again, Fronmüller[3] ranked narcotin in activity as next to morphin; while Baxt[4] extolled the wonderful pain-relieving virtues of papaverin.

As an outcome of the investigations at Baltimore, it was found that in respect to their analgesic power when the six principal opium alkaloids are administered in analgesic doses, they ranged themselves in the following order, beginning with the strongest and ending with the weakest: morphin (10 mg.); papaverin (40 mg.); codein (20 mg.); narcotin (30 mg.); narcein (10 mg.); thebain (10 mg.). The fact that by morphin one subject was rendered hypersensitive to pain, and that this idiosyncrasy could be quantitatively demonstrated, confirms the existence of undoubted cases of persons who are not relieved by morphin, but are rendered even more sensitive by it.

Observations made on the effects of combinations of some of the opium alkaloids indicated that in certain cases, notably with mixtures of morphin and narcotin, a dose of the mixed alkaloids had a greater analgesic power than was represented by the arithmetical sum of its constituents. A similar action was observed with a mixture of all the alkaloids to be extracted from opium. In the light of such facts the problem of possible synergism of the alkaloids remains in evidence. It must be remembered that the observations of Macht involve only the cutaneous sensation. They are without question of value, however, in relation to the broader subject of analgesia.

1. Macht, D. I.; Herman, N. B., and Levy, C. S.: A Quantitative Study of Cutaneous Analgesia Produced by Various Opium Alkaloids, Proc. Nat. Acad. Sc., 1915, i, 582.
2. Bernard, Claude: Compt. rend. Acad. d. sc., 1864, lix, 406.
3. Fronmüller: Klinische Studien über die narcotisierende Arzneimittel, Erlangen, 1869.

YEAST IN A NEW RÔLE

In a recent essay, Mendel[5] has pointed out how the European war is affording an opportunity to study the relation of the food supply to unexpected economic and territorial conditions. From the standpoint of some of the nations involved, the situation is unique in view of the exclusion of food normally obtained in large amounts from abroad. It is interesting to note the scientific acumen with which the German nation, for example, has started a public propaganda of advice to meet the situation thus unexpectedly created. Unjustifiable waste is to be avoided at every turn; but in addition to this, attention is directed to the dietary use of products entirely neglected in the past, or relegated to the rations of the domestic animals. This is a striking aspect of the influence of the scientific spirit on the daily life and service of man.

Under the prevailing circumstances, the supply of protein is most likely to become curtailed in the continental interior; and the carbohydrates are the most abundant of the available nutrients. Inasmuch as meat is an important, if not the most prominent source of protein, the restriction of its use serves a twofold purpose: It encourages the larger consumption of food from vegetable sources, and conserves certain types of

4. Baxt: Arch. f. Anat. u. Physiol., 1869, p. 112.
5. Mendel, L. B.: Changes in the Food Supply and Their Relation to Nutrition, Yale University Press, 1916.

foods, such as the cereal grains, by obviating the necessity of converting these indirectly into food for human consumption through the expensive mediation of an animal. The possibilities of better utilization of the proteins of legumes, of coarser cortical portions of the grains until now discarded, of blood, which has found little favor in the diet of man, and of numerous other resources, have been studied and discussed in the foreign journals.

Somewhat unique among the new possibilities is the proposed use of yeast as an emergency food for man. Heretofore yeast has been known, outside of the baking processes, solely as an unused by-product of the fermentation industries. Of late it has been employed as an admixture to cattle feed, and now come the recommendations for its availability in the ration of man.[6] Yeast has the advantageous capacity of growing in solutions which are rich in carbohydrate and contain nitrogen in forms and from sources scarcely acceptable to the higher organisms. It is thus able to convert the cheapest materials into typical cell substance, and to construct protoplasm out of inexpensive pabulum. Yeast is thus comparatively rich in protein.

On the basis of actual experiments on man, Schottelius[6] has suggested that a small addition of yeast, amounting to 30 gm. (1 ounce), to the ordinary mixed diet is a desirable means of increasing its nutritive value. Völk[6] has investigated the digestibility of the nutrients — the protein, fat and carbohydrate — which occur in yeast, and has concluded that artificially cultivated and brewery yeasts are equally valuable food materials and may be used occasionally to replace meat in the diet. Furthermore, metabolism experiments of seven days' duration are reported by Loewy and von der Heide[6] in which each of the subjects (men) received 100 gm. of yeast per day as a part of a simple mixed diet. Of the 79 gm. of protein in the diet, 31 were furnished by the yeast, and the remainder by the meat, cakes and potatoes which formed the other ingredients of the ration. The digestibility of the yeast protein for the first four days of the experiment was estimated as 81 per cent., and for the last three days, 85 per cent. It will require more than formal reports of this sort to justify the extensive use of yeast in the dietary. As a therapeutic agent yeast has had a limited application with rather uncertain indications for a number of years. Peculiar potencies of the yeast cells in promoting appetite and improving nutrition in ways suggested by the modern "vitamin" hypothesis are known.[7] Perhaps the most important feature of immediate consequence lies in the recognition of how scientific studies may pave the way for a tolerant attitude toward proposed novelties in nutrition.

6. Schottelius, M.: Deutsch. med. Wchnschr., 1915, xli, 817. Völk, W.: Ztschr. Spiritusindust., 1915, xxxviii, 235. Loewy, A., and von der Heide: Berl. klin. Wchnschr., 1915, lii, 600.

7. Hopkins, F. G.: Jour. Physiol., 1912, xliv, 425. Funk, C., and Macallum, A. B.: Jour. Biol. Chem., 1915, xxiii, 413.

Current Comment

PHYSICAL PREPAREDNESS

Military service, whatever its desirability from other points of view, has at least one merit: It tends to bring out the facts with regard to the physical efficiency of the male population. Nations seldom take stock of the physical condition of their citizens except for military purposes. Sometimes the exigencies of war bring to light unwelcome facts. Whether or not universal military service is, on the whole, a good thing for any nation, there can be no doubt that it would be most wholesome and enlightening if the physical conditions of the populace were brought under a scrutiny at least as rigid and impartial as that of the medical examining officer — if it were written down in our national account books just how many of our citizens possess fairly sound vital organs and how many have been weakened by disease or wrong conditions of living; how many are in reasonable command of fairly developed muscular systems, how many are flabby and enfeebled from luxury and overindulgence, and how many exhausted and drained of their strength by overwork; how many are duly nourished, how many overfed and how many underfed. E. E. Rittenhouse,[1] in an address advocating the establishment of a national vitality commission, quotes the experience of a civilian member of last summer's Plattsburg camp. The Plattsburg regiment was recruited largely from men above the average in physical respects — outdoor and athletic men, such as polo and football players and big game hunters. Yet after a month's vigorous training the regiment as a whole was unable to accomplish a day's march a third as long as that of the regular infantry. "If this is the experience of self-selected soldiers who undertook the work because they knew of their own trained physical condition," asks Mr. Rittenhouse, "how long would it take to 'rebuild' a regiment of men from our large body of untrained citizens composed partly of men from the great physically low-powered group?" It is more than probable that a searching investigation would discover us as a nation to be fundamentally — that is, physically — equally "unprepared" for peace and for war.

A METHOD FOR OBTAINING COMPETENT HEALTH OFFICERS

With appreciation of the necessity for whole-time health officers has come a realization of the need for definite standards of fitness for such officers. Certain colleges are offering courses definitely qualifying for such work and leading to the degree of Doctor of Public Health; but graduates are as yet too few to meet the need. The United States Public Health Service has been cooperating with the civil service commissions of certain states and cities for the purpose of securing efficient health officers, and has suggested a plan which appears to be both serviceable and effective. On application from a civil service commission or other

1. Rittenhouse, E. E.: Upbuilding National Vitality: The Need for a Scientific Investigation, Science, Feb. 18, 1916, p. 221.

body delegated to select a health officer, the United States Public Health Service will prepare and forward to the proper authority questions to be used in the examination of applicants. After the examination has been given, the papers, distinguished by number only, are to be sent to the board at Washington, there to be graded and then returned to the local board. Whenever practicable, an oral examination, which usually counts 25 per cent. of the total, is given by an officer of the Public Health Service. All grades are forwarded to the civil service commission, which can then certify the successful candidate to the appointing authority. "In this way," says Assistant Surgeon-General Rucker[1] of the Public Health Service, "health officers will be selected by reason of their fitness as determined by a high standard. The civil service commission or the board of health has been rendered assistance, the office has been filled by a competent officer, and the person passing the examination has the satisfaction of having been certified by the government health agency."

ABOLISHING SECRECY IN MEDICINE—FOR LIVE STOCK

The unknown is always awe-inspiring—*omne ignotum pro magnifico*. For this reason secrecy of composition is the backbone of the fraudulent "patent medicine" business. Every one who has given the matter any study knows that the disclosure of the names and quantities of the potent ingredients of "patent medicines" would work no hardship on honest manufacturers. But the exploiter of frauds would have his most valuable advertising asset taken away from him should he be required to let his customers know the drugs they are pouring down their throats. The reason for the excitement exhibited by manufacturers of fake remedies when it is suggested that they be required to remove the veil of secrecy from their products was never better expressed than by one of their own defenders. This spokesman of the nostrum business, in urging "patent medicine" makers to fight a law requiring the publication of the names and quantities of the active ingredients of their products, did so on the ground that:

". . . it is practically impossible to prove that the therapeutic claims made for a preparation whose composition is not known, are 'false and fraudulent.'"

The same agency said, further, that to publish the names and quantities of the active drugs in "patent medicines" would mean that the manufacturers "will be supplying evidence which may result in their own undoing." A more bare-faced and cynical admission of the viciousness of a fraudulent business has probably never been penned. It explains, briefly, and succinctly, why the poisoners of the public health fear any law that will turn the light of publicity on their products. So powerful are the interests engaged in debauching the public health, that there is not today on any statute book in the United States—municipal, state or federal—any enforced law that will give the public the knowledge of what is in the remedies that are sold for self-medication. Every attempt either to pass or to enforce such a law is met with overwhelming opposition on the part of those who profit by secrecy and mystery. Curiously enough, although the public has so far been unable to protect itself in this respect, it has found it feasible to protect its live stock, at least in certain states. The laws of Nebraska, South Dakota and Oregon require that every remedy sold for the treatment of live stock shall have on its label the name of each therapeutically active ingredient in it. These laws, however, specifically provide that the term "live-stock remedies" shall not include proprietary remedies designed primarily for humans, but used occasionally for the lower animals. Hence, in these states, if the farmer wishes to doctor his pigs with safety he must do so with the medicine that is intended specifically for live stock, and not run the risk of giving a proprietary medicine that was purchased primarily for his baby. A man from Mars might wonder why a great commonwealth should afford greater protection to its live stock than it does to its own citizens. He would learn, however, that it is characteristic of the Earth-man to hold property in higher esteem than human life.

1. Rucker, W. C.: Competent Health Officers, Pub. Health Rep., March 24, 1916, p. 762.

THE HYGIENE OF SUMMER RESORTS

About a year ago, The Journal[1] called attention to the enterprise of York Village, Maine, in establishing a modern health department, and appointing a whole-time health officer. The original organization was experimental and was made for only one year. The community has evidently found no reason to regret its action, for at a recent open town meeting it was resolved to continue the work, and a sum was voted for the expenses of the forthcoming year. The original impetus to the reform was largely due to a small epidemic of typhoid fever. Naturally enough, therefore, the first year's work of the new health department was devoted chiefly to safeguarding the water, milk, ice and food supplies, and to the control of communicable diseases. The results, as judged by the morbidity statistics, were excellent. The example of York Village can be highly recommended to other resorts.

1. The Health of Our Summer Resorts, Current Comment, The Journal A. M. A., Feb. 20, 1915, p. 670.

A Study of Fever.—Jona shows by experiments on rabbits with *B. coli*, that: 1. A definite rise in body temperature is obtainable by injecting a minute amount (as small as 0.000004 gm.) of bacterial substance in a small quantity of Ringer's solution, while collapse and even death result from larger doses. 2. The active bodies are either colloids or adherent to colloids. They are entirely separated by a collodion filter. They are soluble in water and saline solutions. They are not destroyed by boiling or by any dry heat of 110 C. (230 F.). They are insoluble in and unaffected by prolonged contact with ether. They are insoluble in absolute alcohol and their potency is diminished by prolonged contact with absolute alcohol. 3. The fever produced lasts a few hours and is principally due to a diminution of heat loss. 4. In animals in which the brain stalk has been severed distal to the optic thalamus no rise of temperature occurred after the injection of an ordinary pyretic dose. —J. L. Jona in *Journal of Hygiene*, 1916, xv, 169.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Neurological Society Organized.—The Los Angeles Society for Neurology and Psychiatry has been organized with the following officers: president, Dr. Henry G. Brainerd; vice president, Dr. Charles Lewis Allen, and secretary, Dr. Edward H. Williams.

Personal.—Dr. William Palmer Lucas, San Francisco, professor of pediatrics in the University of California, has started for Belgium for relief work in connection with the dietetic problems for infants and children which have arisen there. He sailed from New York on the *Philadelphia*, April 22, and expects to be away about three months.——Dr. William H. Dukeman, Los Angeles, announces that he retired from the practice of medicine, January 1.——Dr. Theodore Koeberle, Los Angeles, is reported to be critically ill from the effects of a fall near his home which caused a fracture of the hip.

Constitutionality of Laws Which Discriminate in Favor of Those Who Heal by Prayer in Question.—The constitutionality of medical legislation enacted by the recent California legislature amending the various acts of 1907 has been raised in a case pending in the United States District Court of California. In this case P. L. Crane, a drugless healer, is plaintiff and the defendants are Governor Johnson, Attorney General Webb and District Attorney Woolwine. The case lies in the equity side of the Federal District Court on a petition for a permanent injunction to restrain the state officials named in the bill from enforcing the California Medical Practice Act because, as the bill alleged, this law is unconstitutional under the federal constitution. The bill prays for temporary relief during the pendency of the suit. Arguments were heard for the temporary injunction, which the court denied. Arguments for the permanent injunction, which will bring into issue the constitutionality of the law, are yet to be heard. The plaintiff's claim is that the California Medical Practice Act comes within the prescription of the fourteenth amendment of the federal constitution, in that the law is discriminatory in favor of those who heal by prayer, thereby militating against drugless healers.

University of California Items.—"Toland Amphitheatre" has been selected as the name of the amphitheater in the new University of California Hospital in San Francisco, in honor of Dr. Hugo H. Toland, the founder and long a member of the faculty of Toland College of Medicine, which eventually grew into the present University of California Medical School.——A new separate department of biochemistry and pharmacology has been established in the University of California Medical School. Its head will be T. Brailsford Robertson, as professor of biochemistry.——Dr. Wilbur A. Sawyer, Sacramento, secretary and executive officer of the California State Board of Health, has been made clinical professor of preventive medicine and hygiene.——Dr. James G. Cumming, director of the Bureau of Communicable Diseases of the California State Board of Health, has been made assistant professor of preventive medicine and hygiene.——Drs. William C. Hassler, John N. Force, Jacob C. Geiger and Chester G. Gillespie, C.E., of the bureau of sanitary engineering of the state board of health, have been made lecturers in preventive medicine and hygiene.——The University of California, besides the work usual to a medical school, also offers a "Curriculum in Public Health" in which the graduate degree of "Graduate in Public Health" may be earned by those who are specializing in medicine, chemistry, bacteriology, or sanitary engineering, and who plan a career in preventive medicine, sanitary science, and public hygiene.——An outright addition of $70,000 per annum has been made by the university to its provision from its general fund for the university medical school for the year beginning July 1, 1916. The university's expenditure for maintenance of medical work for the year ending June 30, 1917, exclusive of building operations, will include: medical school salaries, $87,450; medical school budgets, $49,750; total for salaries and budgets for the medical school, $137,200; for the University Hospital, a teaching hospital under the complete ownership and management of the university, $134,000, of which $35,000 will come from receipts from patients and the balance from the income on endowment and from the general fund of the university; for the George Williams Hooper Foundation for Medical Research, $50,000; making a total for medical work, of $321,000.——Further gifts of $25,616.50 have been received by the University of California to the fund for completing, furnishing and equipping the new University Hospital in San Francisco, which will be completed by the end of the present year at a cost, met by gift, of over $600,000. Additional gifts to the amount of $90,000 are being sought for the completion of the fund.

ILLINOIS

Laboratory to be Dedicated.—The new chemical laboratory building of the University of Illinois, Urbana, Champaign, which is said to be the largest chemical laboratory in the United States, was formally dedicated, April 19. The new building makes available for the chemistry department 164,288 square feet of working space.

Sanatorium Site Purchased.—Purchase of the Dodson property, east of Geneva, as a site for the Kane County Tuberculosis Sanatorium was completed, April 13. The county paid $12,000 for the land. There is great opposition to the establishment of the institution by the people of Geneva, who oppose the location of the sanatorium within one mile of the city limits.

Personal.—Dr. William Brimble-Combe, Carmi, fell downstairs, April 10, dislocating his right shoulder.——Dr. Robert C. Murphy, inspector of high and common schools and health officer of Mt. Greenwood, was elected police magistrate of the village, April 18.——Dr. George P. Gill, Rockford, who recently returned after service on the western front with the Chicago unit, delivered an address at Rockford, April 13, in which he paid tribute to Dr. James M. Neff in charge of the unit.——Dr. Carl Freund, Belvidere, an intern at Cook County Hospital, who has been seriously ill with septicemia due to a necropsy infection, is reported to be improving.

State Hospital Changes.—Dr. Patrick M. Kelly, superintendent of the Kankakee State Hospital, has resigned on account of ill health and the resignation was accepted by the State Board of Administration, April 24. In consequence of Dr. Kelly's resignation the following changes in the staff of the various state institutions have been made by the board: Dr. Ralph A. Goodner, superintendent of the Anna State Hospital, is transferred to the Kankakee State Hospital as superintendent; Dr. Joseph A. Campbell, superintendent of the Watertown State Hospital, is transferred as superintendent to the Anna State Hospital; Dr. Charles F. Read, assistant superintendent of the Peoria State Hospital, is appointed superintendent of the Watertown State Hospital; Dr. George W. Morrow, assistant superintendent of the Anna State Hospital, is transferred to a similar position at the Kankakee State Hospital; Dr. Samuel W. McKelvey, assistant physician at the Anna State Hospital, is transferred to a similar position at the Kankakee State Hospital; Dr. Eugen Cohn, assistant superintendent at the Kankakee State Hospital, is transferred to a similar position at the Chicago State Hospital; Dr. Hiram J. Smith, assistant superintendent of the Chicago State Hospital, is transferred to a similar position at the Anna State Hospital; Dr. Isaac F. Freemmel, assistant superintendent at the Chester State Hospital, is transferred to a similar position at the Lincoln State School and Colony, and Dr. Charles B. Caldwell, assistant superintendent at the Lincoln State School and Colony, is transferred to a similar position at the Peoria State Hospital.

Chicago

Sachs Memorial.—The Jewish Consumptive Relief Society devoted its meeting, April 26, to a memorial to Dr. Theodore B. Sachs.——More than $11,000 has already been contributed toward the Theodore B. Sachs fund, which is to be employed for the erection of a hospital to bear his name at the Edward Sanatorium, Naperville.——The medical members of the committee which has this fund in charge are Dr. William E. Quine, chairman; and Drs. Frank Billings, Ethan A. Gray, Robert H. Babcock, William A. Evans, Orville W. McMichael and John Ritter.

Meeting of Internists.—The eleventh regular meeting of the Chicago Society of Internal Medicine was held in the Northwestern University building, April 24. Drs. Nelson M. Percy and Frank Smithies presented a paper on "The Treatment of Pernicious Anemia by Multiple Transfusions of Whole Blood and Splenectomy," the discussion of which was opened by Dr. Carl K. Koessler. Drs. Herman L.

Kretschmer and Fred W. Gaarde reported on "Colon Bacillus Infection of the Renal Pelvis, with Special Reference to Clinical and Bacteriologic Results Following Treatment." Dr. Frank Billings opened the discussion on this report.

Chicago Physicians Address Societies.—Dr. Frank Billings delivered an address at the semicentennial celebration of the Iowa and Illinois Central District Medical Association at Rock Island, April 13. The lecture was on "General Infections from Focal Diseases" and was illustrated by lantern slides.——At the annual meeting of the Warren County Medical Society, April 7, in Monmouth, Drs. Herman L. Kretschmer and Edward H. Ochsner delivered addresses.——Dr. Charles L. Mix delivered an address before the Calhoun County (Mich.) Medical Society at Battle Creek, April 4, on "Compression of Spinal Cord by Trauma or Tumor: Diagnosis, Localization and Treatment."

Personal.—Dr. Orville W. McMichael has been elected, by the Chicago Tuberculosis Institute, attending physician of the Edward Sanatorium, Naperville, succeeding the late Dr. Theodore B. Sachs.——Dr. Ethan A. Gray has been appointed a member of the committee on business management of the Chicago Municipal Sanatorium.——Dr. Louis C. Johnston was seriously injured in a collision between his motor car and a street car, April 20.——Dr. Duro Guca has returned from a second trip to the Balkans in which the monotony was varied by the sinking of the ship, on which he was a passenger, by an Austrian submarine; by the impossibility of his reaching the field in Serbia in which he expected to work, and by his detention by the British on account of having an Austrian passport.

Committee of Arrangements for Military Surgeons' Meeting.—Surgeon General Rupert Blue, U. S. P. H. S., president of the Association of Military Surgeons of the United States, which is to hold its annual meeting in Chicago in October, has appointed the following committee of arrangements: Chairman, Lieut.-Col. Jacob Frank, surgeon general of Illinois; Brig.-Gen. Charles Adams, M. C., Ill. N. G. (ret.); Surgeon Julius Oliver Cobb, U. S. P. H. S.; Med. Dir. Thomas A. Berryhill, U. S. Navy; Asst. Surg. Charles A. Costello, M. R. C., U. S. Navy; Major James M. Phalen, M. C., U. S. Army; Lieut. Arthur D. Bevan, M. R. C., U. S. Army; Brig.-Gen. Samuel C. Stanton, M. C., Ill. N. G. (ret.); Lieut. J. Allan Hornsby, M. R. C., U. S. A.; Major Gustavus M. Blech, M. C., Ill. N. G.; Maj. Charles B. Walls, M. C., N. G.; and Asst. Surg. Overton Brooks, M. R. C., U. S. Navy.

INDIANA

More Land for State Hospital.—Thirty-four acres of land have been added to the Southeastern Hospital for the Insane, Madison. The hospital tract now consists of 374 acres.

Campaign Against Trachoma.—The city board of health, Indianapolis, has voted to begin an active campaign against trachoma. Thirty-three school inspectors and ten school nurses are busy caring for the schoolchildren suffering from trachoma.

Health Conference.—Plans have been made for the annual conference of town, city and county health commissioners to be held in Indianapolis, May 2 and 3. Among the speakers will be, Drs. Charles E. North, a milk expert of New York; Fletcher Gardner, Bloomington; Carl G. Viehe, Evansville, and H. H. Mitchell, Indianapolis.

Personal.—Dr. William T. Gott, Crawsfordville, has been reappointed a member of the State Board of Medical Registration and Examination.——Dr. Tillman O. Armfield, Elwood, has returned much improved after a winter spent in Florida. Dr. Armfield has resigned as municipal health officer and has been succeeded by Dr. James F. Ginn.

Food Handlers Must be Examined.—Dr. Herman G. Morgan, city sanitarian of Indianapolis, announces that every person who is employed as cook, waiter, baker, soda clerk, dish washer and all others who handle candy, cakes, ice cream or food, must undergo an examination by health department inspectors or other physicians and in case an infectious or contagious disease is found the employer will be required to discharge the person so afflicted instantly. This rule was adopted some time ago by the state department of health permitting cities in Indiana to take this step.

KANSAS

Personal.—Dr. Horace P. Mahan, Parsons, has resigned as a member of the staff of the State Hospital, and will practice in Kansas City.——Dr. Henry A. Dykes, Lebanon, has been reelected secretary of the State Board of Medical Registration and Examination. He has been a member of the board for eleven consecutive years and has been secretary for six years of that time.——Dr. Walter C. Palmer, Hiawatha, has gone to France for work in war hospitals.

State Board Changes.—Dr. John T. Axtell, Newton, has been appointed a member of the state board of health, succeeding Dr. James S. Cummings, Bronson.——Dr. Oscar C. Baird, Chanute, succeeds Dr. Benjamin J. Alexander, Hiawatha.——Dr. Jessie T. Orr, Olathe, was reappointed.——Dr. George R. B. Dean, McPherson, has been appointed a member of the State Board of Medical Registration and Examination, succeeding Dr. Franklin P. Hatfield, Olathe.

State Society Semicentennial.—The fiftieth annual session of the Kansas Medical Society will be held in Topeka, May 3 to 5, under the presidency of Dr. Oliver D. Walker, Salina, who will deliver an address on "The History of the Kansas Medical Society." At the public meeting, May 4, the speakers are to be Dr. Fred H. Albee, New York, who will describe "Recent Advances in Plastic Bone Surgery"; Dr. Bransford Lewis, St. Louis, who will give a "Lantern Slide Review of Cystoscopic Methods in the Diagnosis and Treatment of Ureteral Stone and Stricture"; and Dr. George W. Crile, Cleveland, who will deliver an address on "Methods and Results in Surgery of the Stomach and Intestines."

MARYLAND

Hess Dispensary Opened.—The Hess Dispensary of the Hebrew Hospital, Baltimore, was opened, April 20.

Personal.—Dr. William H. Welch delivered an address, April 21, at the opening of the first Chinese students' conference, Baltimore.——Dr. J. Percy Wade, superintendent of Spring Grove State Hospital, Catonsville, and Dr. Charles G. Hill of Mount Hope Retreat, Baltimore, have returned after a trip to New Orleans and Cuba.——Dr. Henry Barton Jacobs, Baltimore, was reelected president of the Maryland Association for the Prevention and Relief of Tuberculosis at its annual meeting, April 7, and Dr. William H. Welch, Baltimore, was elected a vice president.——The April number of the *University of Maryland Hospital Bulletin* is dedicated to Dr. Thomas A. Ashby, Baltimore, who is at present at Blue Ridge Summit, recovering from a severe illness, and contains eulogistic sketches of Dr. Ashby written by Drs. Albert H. Carroll, Randolph Winslow, Arthur M. Shipley, John M. Hundley, Samuel Merrick and John C. Hemmeter.

MASSACHUSETTS

Personal.—Dr. Charles S. Knight, Westboro, has been nominated as medical examiner and Dr. John Lowell Bacon, Southboro, assistant medical examiner for Worcester County.——Dr. Frederick C. Brigham has purchased the property of the Springfield Academy of Medicine at 349 State Street.

Cutter Lecture.—The Cutter Lecture on Preventive Medicine and Hygiene was delivered by Dr. Simon Flexner, New York, director of the Rockefeller Institute for Medical Research, on "The Finer Adjustments of the Immunity Reactions to Recovery from Infection," April 26, at Harvard Medical School.

MISSISSIPPI

Southern Charity Hospital Plan Defeated.—The house of representatives, April 3, cut out the item appropriating $25,000 for a southern Mississippi charity hospital to be located at Laurel.

Personal.—Dr. David S. Alverson, Redbone, has been appointed county physician of Warren County, succeeding Dr. George Y. Hicks, who resigned to become surgeon of the State Charity Hospital, Vicksburg.

State Association Meeting.—The forty-ninth annual meeting of the Mississippi State Medical Association will be held at the Elysian Club, Greenville, May 9 to 11, under the presidency of Dr. Inman W. Cooper, Newton. The annual oration will be delivered by Dr. E. Denegre Martin, New Orleans.

Tuberculosis Bill Approved.—The governor notified the senate of his approval of the senate bill for the creation of a state sanatorium for the care and treatment of tuberculosis and for the carrying on of a campaign against tuberculosis.

NEW HAMPSHIRE

Personal.—Dr. Jerome P. Webster, Plymouth, on recommendation of Dr. Robert U. Patterson of the American National Red Cross, has been appointed by the state department, one of four special medical attachés to be assigned to

the American embassy at Berlin.——Dr. Albert H. Varney, Newfields, celebrated his eightieth birthday anniversary, March 27.

Surgical Club Meeting.—The semiannual meeting of the New Hampshire Surgical Club was held in the Margaret Pillsbury Hospital, Concord, April 11, under the presidency of Dr. William H. Lyons, Manchester. The morning was devoted to a surgical clinic, at which operations were performed by Drs. Polak, Truesdale and John D. Adams of Boston, and in the afternoon Dr. John O. Polak, Brooklyn, read a paper on "A Study of End-Results After Operation for Pelvic Inflammatory Lesions," and Dr. Philemon E. Truesdale, Fall River, Mass., spoke on "Surgical Treatment of Ulcer At or Near the Pylorus."

NEW YORK

Correction.—In THE JOURNAL of April 15 it was stated that Dr. Daniel F. Mathews had been elected health officer of the city of Syracuse. Dr. Frederick W. Sears, health officer of Syracuse, advises that Dr. Mathews was elected health officer of the village of Solvay, which adjoins Syracuse.

Public Health Libraries.—Commissioner Biggs of the state department of health has prepared lists of books of established value on health suggestions, which he recommends libraries in the state to purchase. Three lists have been prepared: the first, which costs $10, includes twenty-four books and pamphlets; a second, which numbers thirty volumes and includes several valuable reference works, costs $25, while the third, the cost of which is $50, numbers forty-eight volumes and covers the subject of public health in a comprehensive manner.

Act to Supervise Professions.—A bill has been introduced into the senate of the state to amend the education law relative to the practice of professions in New York State by persons licensed in other states or countries and the licensing of such persons by the regents of the university under certain conditions. The law has been amended to read as follows:

Conformable to law, the regents may supervise the entrance regulations to and the licensing and practicing of the professions of medicine, dentistry, veterinary medicine, pharmacy and optometry, and also supervise the certification of nurses and public accountants.

The regents shall have power to make rules and regulations to regulate the licensing to practice of any member of any such professions, or the certification of any nurses or public accountants who shall present satisfactory evidence to the regents showing the applicant for a license to be of good moral character, of sufficient preliminary and professional education, training and skill, and to have lawfully and successfully practiced such profession or calling for such a period of time as to evidence a sufficiently high standing as to learning, experience, skill and character to warrant a license to practice in this state. The regents may dispense with all examinations in proper cases or require such examinations in other cases, as they shall deem necessary to test the professional attainments of the applicant.

This act shall take effect July 1, 1916.

New York City

Honor to Jacobi.—Dr. Abraham Jacobi was the guest of honor at a dinner of the Williamsburg Medical Society, April 14. The dinner was given with a two-fold purpose, first to honor Dr. Jacobi, and, second to commemorate the tenth anniversary of the organization.

Quarantine Bill Passed.—The bill transferring the state quarantine to the federal government was passed by the senate, April 20, by a vote of 33 to 2 and the appointment of Asst. Surg.-Gen. Leland E. Cofer, U. S. P. H. S., as health officer of the port of New York, was confirmed.

Personal.—Dr. William V. P. Garretson has been appointed by the board of trustees of Bellevue and the Allied Hospitals, neurologist to the Harlem Hospital.——Dr. Anthony Bassler has been appointed consulting gastro-enterologist to Christ Hospital, Jersey City.——Dr. Nellis B. Foster has accepted the appointment of professor of medicine at the University of Michigan, Ann Arbor.

Prompt and Uniform Notification of Disease.—The Public Health Council of the State Department of Health on April 4 passed the following resolution:

"It is the judgment of the Council that laboratory facilities in the state, both within and without the department, being now adequate to make diagnostic examinations in diphtheria, typhoid fever and tuberculosis, it is feasible and desirable for the department to enforce the sections of the Sanitary Code relating to prompt and uniform notification in these diseases by such means as will compel physicians at once to seek laboratory assistance in diagnosis in all doubtful cases."

Occupational Instruction in Hospitals.—A committee has been appointed by John A. Kingsbury, commissioner of charities, to take charge of the development of occupational work among the convalescent and chronic patients in the hospitals of the department and also among the inmates of the city homes. Dr. William Browning, Brooklyn; Dr. Charles L. Dana and Dr. Thomas W. Salmon will compose the medical advisory board.

Academy of Medicine Adopts Resolutions on Dental Colleges and Army Bill.—At the regular meeting of the Academy of Medicine, April 20, resolutions were passed approving the establishment of dental colleges in connection with universities having medical departments and also resolutions deploring the inadequate provision made for the medical service in the bills now before Congress for increasing the army of the United States, which gives less than five medical officers to 1,000 combatants, whereas experience in the present European war indicates that ten medical officers to 1,000 combatants are necessary under conditions of actual warfare. This resolution further affirms that in the United States Army in times of peace the ratio should not be less than seven medical officers to 1,000 combatants, to be increased to ten per thousand in war time.

Crusade Against Unmuzzled Dogs.—April 21 was set apart as an occasion on which loose dogs were made a mark of special observation. Under the orders of Health Commissioner Haven Emerson all the employees of the department of health were instructed to keep a sharp lookout for unmuzzled dogs in public places and to record the place and time when such dogs were observed. In the city 7,149 unmuzzled dogs were counted at large during the day, and as a result of this flagrant disregard of the law exhibited by the people of the city, instructions have been issued by the police commissioner to arrest or summon to court all who hereafter violate or disregard the dog-muzzling ordinance. Last year 3,648 persons were bitten by dogs. In 404 instances the dogs wore figure-of-eight strap muzzles; in 440 instances the dog was under leash; in by far the greater number of instances, namely, 2,332, the dog was neither leashed nor muzzled.

OHIO

Mendel at Academy of Medicine.—Lafayette B. Mendel, professor of physical chemistry in Sheffield Scientific University, New Haven, Conn., will deliver an address on "Abnormalities of Growth" before the experimental medicine section of the Cleveland Academy of Medicine, May 12.

Removal of Marine Hospital Requested.—Owing to the contemplated occupation of a considerable section of the downtown lake frontage of Cleveland by railroads, a part of which consists of hospital grounds, the removal of the Marine Hospital to a new site has been requested by the government authorities. Lakeside Hospital and other buildings of the Medical School of Western Reserve University are located in this vicinity.

Personal.—Dr. Guy H. Williams has been appointed acting superintendent of the Columbus State Hospital to succeed Dr. Charles F. Gilliam, deceased.——Dr. L. D. Upson, director of the Dayton Municipal Research Bureau, has resigned to assume similar work in Detroit.——Dr. Lauren E. Flickinger, Canton, is under treatment in Ingleside Hospital for injuries received in a collision between his automobile and an interurban car in Canton, April 1.

PENNSYLVANIA

Federation of Minor Hospitals.—The committee on postgraduate teaching of the Medical Society of the State of Pennsylvania has taken up the subject of a state federation of hospitals of not more than 100 beds. It is believed that the clinical material in these hospitals, which now is practically lost, could be utilized by adequate direct influence through county societies or under the direction of the State College of Pennsylvania, University of Pittsburgh and the University of Pennsylvania, Philadelphia.

Personal.—Dr. Clarence R. Phillips, Harrisburg, has been elected a member of the board of directors of the Associated Aid Societies of Harrisburg.——Dr. Daniel A. Webb, Scranton, left for Nova Scotia, April 13, to join the medical staff of the Eighty-Fifth Highlanders which will sail for the front early next month. Dr. Webb has been commissioned as captain, C. A. M. C. Members of the Lackawanna County Medical Society, of which Dr. Webb is president, gave a reception and dinner in his honor, April 12.——Dr. Robert W. Griffith, Kimberton, was thrown from his buggy in a runaway accident, April 11, fracturing his arm and four ribs. ——Dr. Thomas W. Kay, Scranton, has returned after a four months' trip around the world.

Philadelphia

Not to Abolish "Clean Up Week."—Owing to the indignation of the people in regard to Director Dateman's abolishment of "Clean Up Week," on account of the expense of the campaign, a resolution providing for its financing was introduced into councils, April 19. It was also announced that fourteen or fifteen inspectors will be put to work immediately, and the third week in May has been appointed as "Clean Up Week."

Additions to Medical Service Staff.—Dr. Wilmer Krusen, director of Public Health and Charities, has appointed four physicians to the staff medical service. One of the appointees, Dr. Warren B. Davis, was named as oral surgeon on the visiting staff of the Philadelphia General Hospital. Dr. Maurice Ostheimer was named as a member of the visiting staff of the Hospital for Contagious Diseases. Drs. Frank C. Hammond and F. Hurst Maier were appointed gynecologists to the same institution.

Campaign Against Mosquitoes.—In order to make a fight against mosquitoes, Dr. Wilmer Krusen, director of Public Health and Charities, has asked councils for $25,000, an ordinance for which was presented to councils, April 20. Dr. Krusen will appoint a day in May to be known as "Mosquito Day" and should councils pass the ordinance, Dr. Krusen will use the money for three specific purposes: $5,000 will go to abate nuisances which foster mosquitoes; $10,000 to destroy mosquitoes on private grounds and properties, and $10,000 to kill the pests in alleys and similar places.

Personal.—Dr. Charles H. Frazier delivered an address on "The Surgical Aspects of the Pituitary Body" before the Milwaukee (Wis.) Medical Society, April 15. Before the meeting a banquet was given in honor of Dr. Frazier by the Milwaukee Medical Society at the University Club.——Dr. Walter E. Lee has returned after several months in France. April 10 he delivered an address before the Philadelphia College of Physicians on "The American Ambulance Service in France."——Prof. William H. Park, University and Bellevue Hospital Medical College, delivered the annual address of the Pathological Society at the College of Physicians, April 27.

Welfare Association Meeting.—Members of the Babies' Welfare Association met, April 18, for their annual meeting in City Hall, and determined to continue the emergency service of last summer, which was responsible for saving the lives of many babies. There are only five local hospitals which were not affiliated with the association at its last meeting. Three of the five have no wards for children under 2 years of age and one of the remaining two, St. Mary's Hospital, applied for membership and was received into the association on the day of the meeting. The officers elected for the coming year are: president, John A. Vogelson, chief of the bureau of health; secretary, Dr. Henry H. Doan, chief of the Division of Child Hygiene, and treasurer, Dr. Arthur E. Post.

Medical Day at the University.—Awards of prizes to undergraduate students and a dinner closed Medical Day at the University of Pennsylvania, April 6. Five certificates of proficiency were given to the successful competitors. The second year prize was awarded to William Hoehn for his paper on "Changes in the Pancreas and Diabetes"; the fourth year prize was awarded to Harry M. Patrie, Louis A. Pyle and Clair F. Vale for their joint paper on "Recent Experimental Studies on the Pancreas," and a prize was awarded to J. Monroe Thornington of the class of 1919 on "Binocular Demonstration of Injected Pig Embryos." Dr. John M. T. Finney of Johns Hopkins University delivered an address on "What Constitutes a Surgeon," whom he defined as a member of a profession that has been ennobled by man and one who is ready at all times to lay down his life for the furtherance of his work. Complicated operations were demonstrated by means of motion pictures, the explanatory lecture being delivered by Dr. J. Bentley Squier of Columbia University.

WISCONSIN

Hospital Manager Elected.—H. K. Thurston, for three years statistician of the state board of control, was elected manager of the General Hospital, Madison, to succeed Curtis Livingston, resigned.

Personal.—Dr. Erwin C. C. Cary has been reappointed health officer of Reedsville and Maple Grove township.——Dr. John J. McShane, Kenosha, has been appointed city health officer of Akron, Ohio, succeeding Dr. Albert A. Kohler.

CANADA

Medical Help in Sparsely Settled Districts.—Certain districts in the Canadian Northwest, sparsely settled, are presenting a serious problem as it is becoming increasingly difficult to obtain medical attention for the sick. It is stated that a number of lives have been lost through the lack of proper medical care. The problem is so serious that the government of Saskatchewan will likely empower municipalities to vote a sum of not more than $1,500 per annum, sufficient to retain a medical man in the municipality.

Treatment of Addicts.—By new legislation enacted by the Ontario legislature provision is made for any sufferer from alcoholism or from addiction to drugs to sign a contract for treatment for a term not longer than a year. The patient must apply for treatment when he is in a condition fully to understand the nature of the bargain he is making and the obligations he is assuming. The treatment will be given in the hospitals for the insane throughout the province. There is also provision for guardians and physicians making application for confinement and treatment of wards and patients.

The Grenfell Work.—Dr. John M. Little, Jr., surgeon in charge of St. Anthony's Hospital, Labrador, delivered an address at the annual meeting of the American-Labrador Branch Needle-Work Guild of America, held in Boston, April 11. Dr. Little has been associated with Dr. Grenfell for nine years in his medical missionary work and will return to St. Anthony as soon as open water makes the trip possible. ——The work at St. Anthony's Hospital is at present under the charge of Dr. Charles S. Curtis, Boston.——Sir Wilfred Grenfell, who has been on duty with a Harvard unit "somewhere in France" is now on his way back to America.

Personal.—Captain Malloch, C. A. M. C., has been appointed commanding officer of the Daughters of the Empire Canadian Red Cross Hospital for Officers, at No. 1 Hyde Park Place, London, England.——Maj. S. Nixon Davis, C. A. M. C., Welland, Ont., has been appointed second in command of the 114th Haldimand Battalion, Ontario.——Dr. James A. M. Hemmeon, Seattle, has joined Section B of No. 1 Field Ambulance, C. E. F.——Dr. J. Arthur McCort, resident physician of the general public hospital, St. John, N. B., and Dr. Kenneth A. MacCuish, Glace Bay, N. S., have been appointed to the staff of No. 9 Stationary Hospital, the unit contributed by St. Francis Xavier University, Antigonish, N. S.——Lieut.-Col. Henry F. Gordon, Winnipeg, has been appointed officer in command of No. 12 Ambulance Corps. ——Lieut.-Col. John D. McQueen, Winnipeg, Man., who has been in command of No. 3 Field Hospital at the front, is to command the University Field Ambulance Corps, the unit recently offered by the universities of Manitoba, Saskatchewan, Alberta and British Columbia.——Dr. Ella Campbell Scarlett Synge, Vancouver, who recently returned to England from Serbia, has been appointed to the staff of the Joyce Hospital, Kent, England.

GENERAL

Gastro-Enterologists to Meet.—The nineteenth annual meeting of the American Gastro-Enterological Association will be held under the presidency of Dr. Charles G. Stockton, Buffalo, in Washington, D. C., May 8 and 9, with headquarters at the New Willard.

Mary Putnam Jacobi Fellowship.—The Mary Putnam Jacobi Memorial Fellowship has been awarded to Dr. Mildred Clark, Johns Hopkins, 1914, who will use the fellowship for research work in medical bacteriology in the department of Dr. Theodore C. Janeway at Johns Hopkins Hospital.

Bill to Issue Equipment to American Red Cross.—Mr. Chamberlin brought up in Congress consideration of Senate joint resolution which was approved, May 8, 1914, authorizing the issuance of military and naval equipment to the American National Red Cross with the additional provision that military and naval equipment may be issued to the American National Red Cross for the instruction of persons who may volunteer to receive training by that organization from May 1 to June 1.

Pediatrists to Meet.—The twenty-eighth annual meeting of the American Pediatric Society will be held at the New Willard Hotel, Washington, May 8 to 10, under the presidency of Dr. Rowland Godfrey Freeman, New York. On the second day the society will meet with the Congress of American Physicians and Surgeons and at the morning session the subject of "Syphilis" will be considered. On Wednesday afternoon there will be a symposium on "Immunization and Its Practical Application."

Bequests and Donations.—The following bequests and donations have recently been announced:

New York Medical College and Hospital for Women, New York, $5,000, by the will of Colonel Edward M. Knox.

Mt. Sinai Hospital, New York, $5,000, by the will of Herman Nathan Walter.

Aiken (S. C.) Hospital, a donation of $12,500, by William K. Vanderbilt, New York.

St. Luke's Hospital, Chicago, for a new building, donations by J. Ogden Armour, $100,000; Mrs. H. H. Walker, $50,000; Samuel Insull, $25,000; Robert Roulston, $25,000, and trustees of the hospital, $95,000.

Presbyterian Hospital, New York, $30,000, by the will of Mrs. Eveline A. Meserole.

The Military Surgeon.—The *Military Surgeon* for April comes out greatly enlarged and much improved in general appearances—mechanically and otherwise. The increase in size does not mean that the quality of the material has been sacrificed for quantity. A better quality of paper is used, and the magazine is side stitched and well illustrated. It bears evidence of the fact that the Association of Military Surgeons of the United States now appreciates its responsibilities in publishing a periodical and is determined to have a journal which will be not only a credit to the organization, but of great practical value to its members.

Wine of Cardui Suit.—In addition to the testimony published this week there remains yet unpublished the continuation of the testimony of Dr. Edward E. Montgomery, Philadelphia; Dr. C. K. Maxwell, Kellyton, Ala.; Mr. Renshaw Reed, Ellenwood, Tenn.; Dr. James A. Foster, Huntsville, Tenn.; Dr. Samuel M. Worley, St. Augustine, Fla.; J. K. Webster, Athens, Texas; Dr. Arthur A. Small, Chicago; Dr. C. A. L. Reed, Cincinnati; Dr. William E. Kay, Maplesville, Ala.; Dr. J. B. DeLee, Chicago; Dr. G. Frank Lydston, Chicago; Dr. W. W. Cornag, Lavonia, Ga., and Dr. Alonzo C. Tenney, Chicago. At the completion of the cross examination of Dr. Tenney, the court was adjourned from Monday, April 24, to Wednesday, April 26.

Death of Mr. John A. Patten.—The Wine of Cardui suits were adjourned from Monday evening, April 24, to Wednesday morning, the 26th, on account of the death of the father of one of the jurors, whose funeral took place on Tuesday, the 25th inst. On the convening of Court at 10:30 on Wednesday morning, April 26, Mr. Walker, one of the counsel for Mr. John A. Patten and the Chattanooga Medicine Co., announced that Mr. John A. Patten had died about 4 o'clock that morning. At Mr. Walker's request, Judge Carpenter excused the jury until 10:30 a. m. Tuesday, May 2, 1916.

Sociological Congress.—The Southern Sociological Congress was held in New Orleans, April 13 to 15, about 2,000 delegates were present. The following physicians were elected to office: Dr. Oscar Dowling, New Orleans, first vice president, and Dr. Edward H. Cary, Dallas, Texas, member of the executive committee. Dr. William A. Evans, Chicago, was elected chairman, and Dr. Carrie Weaver Smith, Gainesville, Texas, secretary of the Section on Health. Mrs. D. B. Safford, Hot Springs, N. C., who was in attendance at the congress, has donated 700 acres of North Carolina land, about 30 miles from Asheville, to be used by the organization in its fight against tuberculosis. A gift of several thousand dollars was also made to form a nucleus for a fund to be raised for the erection of suitable buildings for a sanatorium. It was announced that $200,000 had been pledged for sanatorium buildings and will be available as soon as the administration building has been erected.

Graduating Exercises of Naval Medical School.—At the graduating exercises of the Naval Medical School, April 12, Surg.-Gen. William C. Braisted called attention to the fact that within the last two years the secretary of the navy has recommended to Congress an increase in the Medical Corps from 347 to nearly 500; has provided in his personal bill a substantial increase in the upper grades of the Medical Corps; has established two hospital corps training schools, and has made provision for the increase of this corps by nearly 1,000 men, and has also provided an opportunity for members of this corps to obtain commissions. He has also made provision for a new hospital ship for the navy; has established training schools for nurses among the native women of Samoa and Guam; furnished medical officers and nurses to take part in the sanitary regeneration of Hayti, and has authorized the formation of a Medical Reserve Corps for the navy. He has also authorized the medical department to organize five Red Cross units, mobile hospitals of 250 beds each, with personnel and equipment, that can be called at any time where needed to any point of the Atlantic Coast line.

FOREIGN

National Medical Congress in Uruguay.—This month the first assembly of medical men from all over Uruguay was held at Montevideo. The Montevideo Medical Society was the sponsor for the movement and Prof. G. Arrizabalaga was the presiding officer. Among the chief themes discussed were syphilis and cancer in Uruguay, criminal abortion and the legal responsibility of physicians.

Deaths in the Profession Abroad.—H. F. Secrétan of Lausanne, Switzerland, aged 60, to whom his country owes the organization of industrial accident insurance. He founded a policlinic for industrial accidents which became the center in this line of work for the whole country, and his work "L'Assurance contre les Accidents" is now in its third edition. ——E. W. Pawlow, at Petrograd, an eminent Russian surgeon, aged 71. It is quite possible that this is the Pawlow who was referred to in the cables which announced the death of Prof. I. P. Pawlow, the physiologist.——E. Oberndörffer of Berlin, with the Turkish army at Bagdad, at one time on the editorial staff of the *Deutsche medizinische Wochenschrift*. ——G. Ciuffo, assistant professor of skin and venereal diseases at the University of Pavia, likewise dying at the front, as also F. Daretti of the medical faculty of the University of Rome and E. Scalese of the faculty at Pisa.

Medical Missionaries.—Dr. John A. Snell, Soochow, China, for the last seven years a medical missionary of the Methodist Episcopal Church, South, is visiting in Galveston and will take postgraduate work for a year before returning to China. ——Dr. Agnes M. Edmonds, in charge of the Gamble Memorial Hospital for Women and Children, at Chung King, West China, addressed the congregation of the Maple Avenue Methodist Episcopal Church, St. Louis, April 9. Dr. Edmonds was formerly of Pina, Mo., and has spent about fifteen years in China. The Gamble Memorial Hospital accommodates sixty-two patients. Dr. Edmonds also delivered an address at the Des Moines branch of the Women's Foreign Missionary Society of the Methodist Episcopal Church, Springfield, Mo., April 13, on "Methodism in West China."——Dr. J. W. McKean, a missionary at Chiengnai, Siam, for twenty-seven years, delivered an address before the faculty and students of the University of Nebraska, College of Medicine, Omaha, April 14, on "Leprosy."——Dr. Clarence B. Ussher of the American Mission, Van, Turkey, delivered an address before the Kansas City (Mo.) Academy of Medicine, April 14, in which he emphasized the need for medical missionaries in Turkey, Africa and China. Dr. Ussher, who formerly lived in Kansas City, spoke at the Westminster Congregation Church, April 16, on "A Turk's Sacrifice to Humanity and a Reason."——Dr. Ralph W. Mendelson, Des Moines, has been appointed sanitary expert to the King of Siam.

WAR NOTES

Tent Hospital to be Reestablished.—The French minister of war has requested the American Ambulance, Paris, to reorganize for use this summer the large tent hospital which was installed last year at Pagny-sur-Meuse.

Medical School at Battle Front.—Medical students of the Italian universities are receiving practical as well as theoretical instruction in the fifth and sixth years at Udine, where they are on duty with troops. The government provides material and professors, and the building is equipped with every detail for modern medical instruction. The students attend lectures and clinics as regularly as their military duties will permit.

Vaccination of Entire Populace in Galicia.—According to the *Klin.-Therap. Wochenschrift* the entire populace in Galicia is being vaccinated. The work is being done by students from the universities of Cracow and Lemberg. Lectures have been stopped for six weeks and the students started on the task March 7. The expense of the *Massenimpfung* is calculated at about $100,000. The students are lodged free and paid $2 a day each.

Prizes for Best Artificial Arm.—The German Engineers Association recently offered three prizes, totaling nearly $4,000, for the best device for an arm. They received eighty-two prostheses in competition and sixty were good. Two of the prizes were divided between six of the contestants, and eleven other contestants were given favorable mention for some special feature of their device, and the third prize was distributed among them. The entire sum appropriated was thus paid out, although not in three prizes as had originally been anticipated.

BERLIN LETTER

Berlin, March 28, 1916.

Personal

Because of ill health, Prof. A. Fraenkel will retire from the directorship of the Krankenhaus am Urban in Berlin, April 1. He will be succeeded by Prof. A. Plehn, who has been the physician in chief of the medical division of this hospital for the past thirteen years. Most of his time has been devoted to the study of tropical diseases and diseases of the blood. Previous to his appointment in the hospital, Professor Plehn was for many years a government physician in Kamerun, Africa.

Psychic Disturbances Incident to the War

Shortly after the beginning of the war a neutral European periodical, the *Telegraph*, of Holland, published a statement, credited to a French psychiatrist, that since the beginning of the war 750,000 German soldiers and 1,600,000 civilians had become insane. Professor Bonhoeffer, the Berlin psychiatrist, made an investigation of this subject. He found that the war cannot be held responsible for any particular psychic disturbance. In fact, the same types of mental diseases are prevailing now as in times of peace, nor is there any change in the syndrome of any psychic disorder. The usual type of psychic disturbances, that is, dementia praecox and the manic depressive insanities, are encountered in their usual form. Of course, there is bound to be some difference in the clinical history of these diseases because of the fact that these patients live in a different environment; but this cannot be held responsible for the creation of a different type of disease. Nor do these disturbances occur more frequently now than during times of peace. These facts throw an entirely new light on the etiology of mental diseases, because if exhaustion, lack of sleep and emotional disturbances really play the rôle in the production of these diseases that has been credited to them, then they ought to occur more frequently at the front during war time than at home during times of peace. Still this is not the case. In fact, we are informed by the psychiatrists at the front that, while the exhausting marches, the comparatively poor housing and the constant exposure to the shock of exploding shells are productive of nervous disturbances, a real psychosis has not been developed. Neither is it believed that life at the front will predispose to the development of psychic disturbances later on.

THE PSYCHOPATH

Of course, the so-called psychopath, the subnormal individual, probably is an exception in that he is more exposed to conditions which may early break down the sensitive borderline between the normal and the subnormal. These persons, however, also form a distinctive group in ordinary civil life and break down quickly under unusual mental strains. Therefore, the war can hardly be held responsible for the production of a condition which already exists. It has been shown that the majority of the psychic nervous disturbances encountered since the beginning of the war have occurred among these individuals. The clinical manifestation is usually a variation in temperament, paralyses, spastic conditions, peculiar forms of delirium and loss of memory sense. In fact, the picture is recognized as being of the hysterical type, and every form of hysteria is seen just as it occurs in times of peace. Hence, one cannot speak with propriety of war psychoses. The war merely causes these cases to occur earlier and more frequently, although under ordinary conditions some of these persons might have escaped the psychic breakdown. It has been the aim of the military authorities not to permit the psychopath to enlist for service, but naturally many difficulties are met in attempting to determine who is and who is not a psychopath because of the very slight differentiation that may exist between the normal and the subnormal. In the case of many psychopaths the condition is not recognized until the man has seen service, and furthermore, many psychopaths render good service without any or only slight psychic disturbances. Military service has helped some psychopaths to overcome the deficiency. Their disturbed, easily excited mentality has prompted them to enlist for service as volunteers; the strain of such service has helped them to forget their mental shortcomings, and they have been molded into good soldiers. Certain types of psychopaths, the adventurer, the youthful transgressor, the boy who has fought school discipline, the young man who has come into conflict with the police, who has fought law and order, often finds himself entirely at home and at peace with the law and himself when he sees service at the front. Many incorrigibles who have been enlisted from institutions have made splendid soldiers. Thus it will be seen that the psychopaths cannot be and should not be prohibited from entering on military service. Often the most careful selection is bound to be followed by a certain number of cases of psychic and nervous disturbances in psychopaths. Just how great this number will be cannot be stated at this time. The individual experiences of the psychiatrists at the front leads one to believe that the number is not very great. They report that their services have not been called for to treat psychic disturbances, and there has been no demand for the establishment of special so-called psychic stations at the front as was the case in the Russo-Japanese War.

ALCOHOLIC PSYCHOSES

Exogenous psychic disturbances caused by traumatic, toxic or infectious lesions of the brain are encountered, but not in great number. As to the alcoholic psychoses which played so great a rôle in the Russo-Japanese War: Awtokratow analyzed the statistics from the psychiatric central hospital in Charbin. He found that among officers there were 34.5 per cent. and among the privates 10.8 per cent. psychoses due to chronic alcoholism. These figures justify the stand taken by Russia in regard to alcohol at the beginning of the present war. Fortunately, we have not had any similar experiences. The few alcoholic psychoses reported occurred among the older soldiers who in civil life were alcoholics and were incapacitated soon after their enlistment. Therefore our experiences up to the present have been such that we feel justified in asserting that the health of the soldiers as a whole, including psychic disturbances, is remarkably good.

LONDON LETTER

London, April 3, 1916.

The War

THE SUPPLY OF PHYSICIANS FOR THE ARMY

The great demand for physicians for the army has caused the War Office to raise the military age from 40 to 45 years. It has just issued an announcement that in order to maintain the supply of medical officers required to meet the needs of the military services, it is urgently necessary in the interests of the civil community no less than of our armies that all qualified physicians not exceeding 45 years of age, irrespective of their circumstances, should without delay enter their names under the enrolment scheme which has been established by the Central Medical War Committee, and has the authorization of the War Office. The work of enrolment is carried out by three representative bodies of the medical profession known as the Central Medical War Committee for England and Wales, the Scottish Medical Service Emergency Committee, and the Irish Medical War Committee. Enrolment does not mean that the physician is at once called up for service; he may never be called up, and in any case will not be called up until the proper time has come for his services to be accepted. The purpose of the scheme is to secure that those physicians are selected for military purposes who can best be spared at the particular date and from the particular place, with due regard to the needs of the civil population, to the personal circumstances of the physician, and to the requirements of the armies. To carry out efficiently the comparative process necessary for an equitable distribution of the burden as it affects the medical profession and the civil population, all physicians of suitable age should have offered themselves for service, so that a proper selection may be made by a body equipped with the requisite information from all parts of the country and thus competent to make the necessary comparisons. The only alternatives are haphazard recruitment and arbitrary demand. For these reasons the War Office has recognized and now relies on the Central Medical War Committee and the corresponding committees in Scotland and Ireland. The committees include representatives of the royal colleges of physicians and the royal colleges of surgeons, of the universities and medical schools, and of the British Medical Association, and have associated with themselves in their work representatives of the government departments mainly concerned. The committees have an organization of representative local committees in all parts of the three countries, from which they obtain local information and advice; and they work in daily contact with the various government departments concerned. For the purpose of considering and advising, through the central committee, on cases in England and Wales, having such special features as exist, for instance, in regard to the staffs of the metro-

politan hospitals, a committee of reference has, with the approval of the War Office, been now established by the Royal College of Physicians of London and the Royal College of Surgeons of England acting jointly.

Vital Statistics

In a recent letter to THE JOURNAL, figures were given showing the decline of the birth rate. A report by Dr. Newsholme, medical officer of the Local Government Board in England, which has just been published, deals with the question. The phenomenon is not peculiar to this country, and is not so marked as in some other countries, so that its causes must be looked for in general conditions which are affecting all the nations of modern Europe, as well as the overseas dominion and apparently the United States of America also, for the statisticians of the United States have concluded that the birth rate has been declining very rapidly among Americans of the second and later generations. The accompanying table, compiled by Dr. Louis Parkes, shows the decrease in the mean birth rates between 1887-1889 and 1910-1912, a period of twenty-three years:

DECREASE IN BIRTH RATES IN TWENTY-THREE YEARS

From 7 to 9		From 5 to 7		From 3 to 5	
Country	Decrease	Country	Decrease	Country	Decrease
Hungary	8.2	Austria	6.7	Norway	4.9
Australia	8.0	Belgium	6.4	Sweden	4.6
Serbia	7.8	Italy	5.8	Denmark	4.5
Germany	7.7	Finland	5.4	France	4.1
England and Wales	7.0	Scotland		Spain	4.0
		Netherlands	5.3	Russia	3.7
		New Zealand	5.0	Switzerland	3.3

An increase was shown by Bulgaria, 3.6; Ireland, 0.3, and Roumania, 0.3. Thus, with the exception of Bulgaria, with a decided increase of 3.6 in the birth rate, and of Ireland and Roumania with very slight increases, the birth rates of most of the other nations have been lowered in the course of the last quarter of a century, and some very considerably lowered. It is now generally admitted, both in this country and abroad, that the lowered birth rate is not due to natural causes, such as a higher average age at marriage, or to a natural decrease of fertility, or even to a lower rate of illegitimate births. It is believed to be due, in most part, to voluntary restriction, the general incentives to which must be universal among the nations, and must be of very various character, the kind of incentive which is effective in Australia or New Zealand differing materially from that which is operative in Hungary or Serbia. Dr. Parkes expressed the opinion that in the more highly civilized and industrialized countries the causes were a desire for a higher standard of social comfort, a disinclination on the part of married women to devote all their lives and energies to the rearing of the future race, and their desire for a larger share in the political and other privileges enjoyed by men, combined, in the case of both parents, with a doubt as to what the future may have in store for the offspring. Among the more intelligent of the working classes there may be fears of overpopulation, of periodic trade depressions and unemployment, and among the middle classes similar fears, due to the overcrowding of the professions and the uncertainties of a commercial career where trusts and great trade combinations seem to hold the field. With more occupations open to women as the result of the war, or of political changes following the war, both single and married women will have careers open to them which will in the mass militate against a high rate of national fecundity; and we may, he considers, expect that social changes of this character will accentuate the further fall of the birth rate for some years to come, which must result from the destruction of so many men who, in the natural course of events, if unmarried, would have become husbands and fathers, and, if married, would have increased the number of their children.

Appointment of a Chinese Physician to an English Post

A striking illustration of the great shortage of physicians in consequence of the war has just been given at Leicester. Guardians required a resident medical officer for their poor law infirmary. The applicants were a Welshman, a Japanese, a Belgian, an Indian and a Chinaman. The remuneration is $1,250 yearly, with house, coal, gas, rations and attendance. The Chinese candidate, Mr. Ping Wing Lam, M.B., Edinburgh, whose English name is William Phillips, was appointed. He had excellent testimonials, and created a very favorable impression on the guardians.

PARIS LETTER

PARIS, March 30, 1916.

The War

IMMEDIATE TREATMENT OF WOUNDS OF WAR IN AN AMBULANCE AT THE FRONT

At a recent session of the Société de chirurgie de Paris, Dr. R. Picqué read a very interesting paper on this subject. He mentioned that at the beginning of the campaign it was supposed that the gunshot wounds would predominate and that the movement of troops would be swift and sudden in proportion to the perfection of armament, so that installation of suitable provision for surgery would not be possible. Surgeons, distrusting themselves, relied on the character of the wound, and hence arose the doctrine of expectant treatment peculiar to military surgery, even in cases in which such practice was repugnant to all principles of ordinary surgery. The surgical formations of the front were to be—to use a colloquial expression—only packing and shipping rooms for the wounded before their evacuation. On the one hand, however, gunshot wounds did not show the "humanitarian" character promised, and on the other, the frequency of wounds from artillery projectiles quickly dispelled all hopes of the benign evolution of the wounds of war. It became evident that the hope of the wounded lay in immediate, active and extensive surgery performed as near as possible to the front. Therefore, mobile or immobilized ambulances near the front were created. Thanks to the complete equipment and to the selected staff permitting rapid work in these ambulances, as well as to the improvement in the rapid transportation of the wounded to ambulances, the fundamental desideratum has come to be realized, the care of the wounded, in war as in peace, attained by their immediate transportation to the place where they will receive definitive treatment, and where they will remain as long as possible. These hospitals have, little by little, received all necessary equipment for action, including at present electric lights and radiograph apparatus. Better even than this, behind the two first lines, all the *zone des étapes* contains, more or less grouped around the evacuation hospital, in addition to laboratories, etc., specialized services for the treatment of fractures, ocular conditions, urinary diseases, mental conditions, contagious diseases, etc., permitting the hospital care of all the sick and wounded discharged from the first and second lines before their return to the front or their removal to the interior.

The necessity for immediate operation is due to the seriousness of the wounds and the possibility of subsequent infection. Picqué believes that every wound of war ought to be considered actually more serious than it appears at first sight, and that every wound inflicted by an artillery projectile ought to be considered as infected at the outset. Hence it follows that all wounds made by dangerous agents or complicated or suspected of being complicated by serious septic conditions or by organic or visceral lesions, injuries of vessels or lungs, the important articulations of the head, the thorax, the abdomen or pelvis, should be treated at the ambulance.

THE JOINT SANITARY COMMISSION OF THE ALLIES

The members of the joint sanitary commission of the allies (THE JOURNAL, March 11, 1916, p. 828) were received March 23 at the war department by M. Justin Godart, undersecretary of state for the military medical service. The purpose of this commission is the exchange among the allies of information and views with regard to sanitary questions of common interest, so that experience acquired in each country and in each army may be of service to all the others. The twenty members of the commission are representatives appointed by the governments of Belgium, France, Great Britain (including India, Canada and Australia), Italy, Russia and Serbia. The program of work includes the study of information brought together by representatives of the allied nations with regard to transmissible diseases, their method of propagation, their peculiarities and their prophylactic measures to be used against them, especially typhus and cholera. The commission will also study the measures necessary for assuring the hygiene of the troops, the rational mode of feeding them, measures for sanitation of trenches, as well as certain medical and surgical problems raised by war.

FORMATION OF MUNICIPAL PROVISION STORES IN THE PROVINCES

During last October, the prefect of police of Paris formed a special commission to regulate the price of food. This measure, however, has not proved sufficient to remedy the

critical situation with regard to the food supply. It is now proposed, therefore, that municipal food stores should be formed. Certain capitalists have promised their aid. The city of Paris has bought large quantities of foodstuffs that are being sold to the public almost at cost in municipal stores. Such municipal stores are already operating in certain cities of the provinces. Thus, the city of Nimes has founded a municipal slaughterhouse which sells meat at a price just sufficient to cover the cost. The present price of meat is about 15 per cent. below the price asked before the opening of the municipal slaughterhouse, and apparently the price would be much higher today if there were no municipal enterprises of this nature. Some communes in the outskirts of Paris, especially Arcueil-Cachan, have opened municipal stores for other supplies, such as potatoes, green vegetables and coal.

A Physician Philanthropist

A physician of the department of the Aube, Dr. Millard, died some time ago, leaving by his will more than half a million francs to the city of Troyes and to various philanthropic purposes, subject only to the life interest of his widow. In particular, he bequeathed to the city of Troyes 150,000 francs (about $30,000) for its library and museum; 100,000 francs (about $20,000) for its dispensary, where it is the testator's desire that a *goutte de lait* be organized; 80,000 francs (about $16,000) for the organization of vacation colonies; 25,000 francs (about $5,000) for the Société des jardins ouvriers, and 150,000 francs (about $30,000) for the caisse d' épargne et de prévoyance (insurance fund). Dr. Millard also left the sum of 70,000 francs (about $14,000) for the Assistance publique de Paris; 20,000 francs (about $4,000) for the Orphelinat de la Seine; 20,000 francs for the Société médicale des hôpitaux de Paris and for the Association des médecins de la Seine, etc.

The Death of Dr. Léon Labbé

Dr. Léon Labbé has just died, aged 83. He was born in Merlerault, department of the Orne. He was agrégé professor of the Faculté de médecine de Paris, surgeon of the hospitals and a member of the Académie de médecine and of the Académie des Sciences. He became president of the Société de chirurgie de Paris in 1862. He was elected senator in 1892 and reelected in 1900 and in 1909. Dr. Labbé had a high reputation as a surgeon, especially in the domain of abdominal and gastric surgery.

BUDAPEST LETTER

Budapest, April 11, 1916.

The Loss of Three Sons—All Doctors

Dr. Julius Patsaner of Nagyvarad, Hungary, who retired from practice several years ago because of total deafness, is mourning the death of his third son, a physician. This one died in Rohatim, Galicia, where he acted as chief physician of a military epidemic hospital. His name was Dr. Ervin Partos (the family name has been Hungarized), and he was university assistant in Geneva, Switzerland, before the outbreak of the war. Dr. Patsaner has now lost all his sons; the three were medical men. One died of apoplexy three months ago, and one in December, 1914, in the Carpathians in the battle at the Uzsok Pass, where he was engaged at a first aid station.

Medical Statistics in Hungary

There are practicing 5,966 medical doctors in Hungary. Out of this number there are in Budapest alone 1,612 physicians, while there are 4,318 in the provinces and 36 in Fiume. There are 39 hospitals in Budapest, 388 in the provinces, 23 in Croatia and Dalmatia and 27 in Bosnia and Herzegovina. There are 17 children asylums, 12 maternity hospitals and 8 maternity hospitals connected with schools for midwifery. There are 228 mineral baths and health resorts, and 82 medicinal springs. In the Budapest University there are 23 ordinary medical professors, 32 extraordinary professors, 105 lecturers, and 83 assistants. In the University of Kolozsvar (also Hungary) there are 12 ordinary and 5 extraordinary professors, 12 lecturers and 26 teachers. The other two universities with medical faculties in Pozsony and Debreczin will not be opened until after the termination of the war.

The Neutrality of Health Resorts

Dr. E. H. Kisch, government advisor, and chief physician in Marienbad proposed fifty years ago that the neutrality of the reputed Bohemian health resorts, and others which are equipped with modern institutions for curing patients, should be declared, and that they should be recognized as neutral by all warfaring countries. He made this proposal when a war between Austria and Prussia was threatened. It was considered at a parliamentary sitting in Prague, Dec. 7, 1866, and the government was asked to further the project. Count Forgach, then governor, lent his aid. In August, 1867, there was an international conference in Paris on the aid societies for wounded soldiers. Dr. Kisch sent a pamphlet to all who took part, to persuade them to use their influence in favor of the idea and to decide that a supplementary article should be added to the articles of the Geneva Convention. Surgeon-General von Langenbeck spoke in favor of Kisch's proposal in the Paris Conference, and requested that all health resorts should be regarded as neutral within the area of war.

During the long period of peace, nothing was done about it. In 1912, during the Balkan War, Dr. Kisch took the matter up again. The president of the Austro-Hungarian Association of Health Resorts addressed a memorandum to the foreign secretary of state, and asked his support in this matter. Meanwhile, in August, 1914, the great European war broke out. The foreign ministry replied that the matter was being given serious consideration. The law of Dec. 26, 1912, permits the utilization of health resorts for military purposes in case of necessity. According to the Geneva Convention of July 6, 1906, military hospitals are protected, as are also institutions in health resorts which are employed for the military health service. Against declaring health resorts in general as neutral, said a high official of the ministry of war, there are circumstances which must be very thoroughly considered.

Dr. Kisch is a man of perseverance, and has not given up hope of being able to realize his idea after the war. He thinks that this war has proved the important rôle played by the health resorts in curing wounded and sick soldiers, and that this fact will lead after the termination of the war to repeated negotiation of his proposal. He believes he will live to see his idea accepted. In this case he said to an interviewer that Goethe's words will prove to be true: "Was man in der Jugend gewünscht, bietet das Alter in Fülle" (That which one has wished for in his youth, age offers in fulness).

Venereal Diseases in Belgrade

The figures of the provisional Austro-Hungarian health officer in Belgrade on the mortality from the venereal diseases give rise to some cause for question. The health officer stated that the death rates from syphilis and general paralysis of the insane were abnormally high in Belgrade, being proportionately about twice those of other cities. It is probable that the incidence of venereal diseases in Belgrade is high, and this is in great part explained by the presence of an unusually large number of Austro-Hungarian and German soldiers in proportion to the civil population. The incidence is not, however, so high as might be assumed from a consideration of the death rate alone. The accuracy of the officially recorded death rate depends on the accuracy with which the primary cause of death is stated in death certificates. In the case of a death from venereal disease occurring in private practice, it is rarely that the fact appears on the death certificate, which, as a rule has to pass through the hands of near relatives of the deceased. The death rate from venereal diseases is therefore probably much higher as regards persons attended in private practice then the official returns show.

The Utilization of Mountain Sanitary Motor Cars on the Southwestern Front

The Order of German Knights presented in October last year a group of powerful motor cars specially built for health purposes for mountainous territory. At that time the order made a present of six cars, which were supplemented lately by another gift of eighteen cars. These cars are of 25 horse power and did extraordinarily good service in the Serbian and Albanian field, where other vehicles can pass only with great difficulty. The cars are specially built, and have low gears so that they can easily mount even the steepest grades. Each can carry four or five wounded soldiers, and the equipment is such that any kind of stretchers can be employed. Six cars are reserved for the transport of infectious patients. Each car is illuminated by calcium carbid, is supplied with a box containing sterile dressing, and carries surgical instruments for first aid. The equipment contains two spare wheels and other accessories. Each car is supplemented by two mountain sleighs. The doctor is seated beside the driver.

Marriages

CAPT. OMAR WALKER PINKSTON, M. C., U. S. Army, Fort Sam Houston, Tex., to Miss Melle Wilson Glass of Columbus, Ohio, at Clarksburg, W. Va., March 15.

CAPT. JOHN THOMAS AYDELOTTE, M. C., U. S. Army, Alcatrez, Calif., to Mrs. Laura Rentfro Thompson at San Francisco, March 9.

ASST. SURG. GEORGE WEHNES CALVER, U. S. Navy, Cavite, P. I., to Miss Jessie Willits of Philadelphia, at Manila, P. I., March 15.

P. A. SURG. EDWARD ELIAS WOODLAND, U. S. Navy, Philadelphia, to Miss Kinda Ruth Sheley, in New York City, April 6.

LOUIS WILLIAM DUNAVAN, M.D., to Mrs. Elizabeth M. Wright, both of Chicago, at Valparaiso, Ind., April 17.

WINIFRED A. YELTON ROBB, M.D., to Judge James P. Jack, both of Newton, Ill., at Danville, Ill., March 29.

AUDREY GOSS, M.D., Chicago, to Mr. T. J. Morgan of Washington, D. C., at Wytheville, Va., April 16.

GUY E. NOBLE, M.D., St. Marys, Ohio, to Miss Hazel Kelchner of Lima, Ohio, April 15.

NATHAN KRAEMER, M.D., to Miss Matilda D. Kehlmann, both of New York City, April 9.

FRANK P. WINKLER, M.D., Sibley, Ia., to Miss Mayne Benjamin of Ashton, Iowa, January 1.

ABRAHAM MORRIS SIEGEL, M.D., Chicago, to Miss Rachel Fred of Lebanon, Ohio, April 9.

STEPHEN GREENFIELD, M.D., to Miss Beatrice Heifand, both of New York City, April 2.

HUBERT O. BELL, M.D., York, Neb., to Miss Elzora Beagle of St. Louis, April 8.

Deaths

James William White, M.D., surgeon, teacher and author; died at his home in Philadelphia, April 24, from pneumonia.

He was born in Philadelphia, Nov. 2, 1850, the son of Dr. James W. and Mary Anne McClaranen White. After instruction at the public schools and Quaker schools of Philadelphia he entered the University of Pennsylvania and was graduated with the degree of M.D. in 1871. He afterward received the degree of Ph.D. from the university and in 1900 had the degree of LL.D. conferred on him by the University of Aberdeen, Scotland. After his graduation Dr. White accompanied Professor Agassiz on the Hassler expedition to the West Indies and South America and after his return in 1872 he became resident physician at the Philadelphia Hospital, and then for two years was surgeon to the Eastern State Penitentiary.

He was a Fellow of the American Medical Association; a member of the American Surgical Association, American Genito-Urinary Association and the College of Physicians of Philadelphia and a Fellow of the American College of Surgeons. From 1878 to 1888 Dr. White served as surgeon of the First Troop Philadelphia City Cavalry. He was appointed advisory surgeon to the Pennsylvania System in 1907.

He was teacher in his alma mater for more than thirty years, at first professor of genito-urinary surgery, then professor of clinical surgery and later John Rhea Barton professor of surgery, resigning from the latter position on Oct. 4, 1910, when he was made emeritus professor of surgery. He was also a trustee of the university.

Dr. White was surgeon to the University Hospital and consulting surgeon to the Philadelphia and Jewish hospitals. He was co-author with Dr. Keen of the "American Text Book of Surgery," published in 1896, co-author with Dr. Martin of "Genito-Urinary Surgery," which appeared in 1897, and translator and editor of "Cornil on Syphilis." He was also one of the editors of the *Annals of Surgery*, and a frequent contributor to the literature of his specialty.

After his resignation, which was on account of ill health, Dr. White traveled extensively, taking a trip around the world in 1913, in which he made an extended visit in China where he was deeply interested in the University of Canton. He was given a remarkable ovation by the students and faculty of the University of Pennsylvania on his return from this trip.

Dr. White was deeply interested in the work of the American Ambulance, Paris, and headed the University of Pennsylvania unit which sailed June 12, 1915, for Europe. He was in charge of the American Ambulance for three months and returned to Philadelphia in September. Ever since his return he had suffered from osteitis deformans and had been virtually helpless. His death, however, was due to pneumonia.

Samuel Springate Thorn, M.D., Toledo, O.; New York University, New York City, 1854; aged 84; a member of the Ohio State Medical Association and Toledo Academy of Medicine and once president of the Toledo Medical Society; formerly professor of surgery in the Northwestern Medical College, Toledo; for many years chief of the surgical staff of St. Vincent's Hospital; surgeon of the Toledo, St. Louis and Western; Pennsylvania, Pere Marquette, and Detroit and Toledo Shore line railroads; a practitioner of Toledo for nearly sixty years; surgeon of the One Hundred and Thirtieth Ohio Volunteer Infantry during the Civil War; died at his home, April 13.

Wilbur J. Wilcox, M.D., Oakland, Calif.; University of California, San Francisco, 1885; aged 66; formerly a Fellow of the American Medical Association; county treasurer of San Mateo County from 1879 to 1884; a member of the city board of education for ten years; died in Merritt Hospital, Oakland, Calif., April 8, from injuries received three days before, when he was run down by his own automobile while cranking it.

Robert Morison Curts, M.D., Paterson, N. J.; Trinity Medical College, Toronto, 1892; aged 45, a Fellow of the American Medical Association and American College of Surgeons; first president of the Surgical Society of New Jersey; visiting surgeon to St. Joseph's Hospital, Paterson, and consulting surgeon to the Franklin (N. J.) Hospital; died at his home, April 16, from abscess of the liver.

Hugh K. Schussler, M.D., New York City; Hering Medical College, Chicago, 1897; Northwestern University Medical School, Chicago, 1903; aged 39; formerly of Chicago; at one time champion pistolshot of the United States and a member of the Century Opera Company; died at his home, April 16, from carcinoma of the stomach.

Heber Wilbur Coulter, M.D., Sharon, N. D.; formerly of Mountain Lake, Minn.; University of Toronto, 1903; aged 47; formerly a member of the North Dakota State Medical Association; who joined the Canadian Overseas Contingent several months ago; died in a hospital in Saloniki, Greece, March 22, following an injury.

William Jackson Seely, Red Bud, Ill.; (license, years of practice, Illinois, 1887) aged 83; formerly a Fellow of the American Medical Association; a member of the Illinois State Medical Society; a practitioner of Randolph County, Ill., for fifty-three years; died at the home of his daughter in Realitas, Tex., March 12.

Norton Downs, M.D., Three Runs, Pa.; University of Pennsylvania, Philadelphia, 1888; a Fellow of the American Medical Association; died at his home at Fordhook Farm, near Three Runs, April 13, from the effects of a gunshot wound of the head, believed to have been received while cleaning a loaded revolver.

Frank Lloyd Bronson, M.D., Las Vegas, N. M.; Northwestern University Medical School, Chicago, 1908; aged 32; a member of the Illinois State Medical Society and formerly a pediatrist of Streator, Ill.; who moved to New Mexico on account of his health a few months ago; died at his home in Las Vegas, April 6.

Eugene Deyerle Supplee, M.D., City Point, Va.; George Washington University, Washington, D. C., 1914; aged 23; on duty at the Dupont Hospital, Hopewell, Va.; was drowned April 2, it is believed, while endeavoring to save his wife, who had fallen overboard from a canoe in the James River below Richmond.

Charlotte Whitehead Ross, M.D., Winnipeg, Man.; Woman's Medical College of Pennsylvania, Philadelphia, 1875; aged 73; the first woman practitioner of Montreal and the first physician in the Whitemouth River District of Manitoba; died at her home in Winnipeg, February 21, from arteriosclerosis.

George Rutledge Cowan, M.D., Granite City, Ill.; Washington University, St. Louis, 1884; aged 59; a Fellow of the American Medical Association and a well known practitioner of Girard, where he practiced until 1902, Joliet and Granite City; died at his home in the latter city, April 2, from arteriosclerosis.

Zacharie Vadnais, M.D., Marquette, Mich.; Laval University, Quebec, 1898; aged 41; formerly a Fellow of the American Medical Association; a member of the Michigan State Medical Society and health officer of Marquette; died in the Newberry (Mich.) State Hospital, April 5, from general paresis.

Herman E. Vohs, M.D., Kansas City, Kan.; Eclectic Medical University, Kansas City, Mo., 1914; aged 28; an instructor in the Kansas City College of Medicine and Surgery; died in his room in Kansas City, April 2, from the effects of a gunshot wound of the heart accidentally self-inflicted.

James Robertson Pharr, M.D., Dunloop, W. Va.; Medical College of Virginia, Richmond, 1903; aged 35; formerly a member of the Medical Society of Virginia; for twelve years surgeon to the McKell and New River Coal and Coke Company; died at his home, February 21, from pneumonia.

Edwin D. Meeker, M.D., Lawton, Okla.; Washington University, St. Louis, 1891; aged 49; a Fellow of the American Medical Association; formerly surgeon at Birchtree, Mo., for the Kansas City, Fort Scott and Memphis Railroad; died at his home, April 5, from cerebral hemorrhage.

George Thorne Warford, M.D., East Orange, N. J.; University of Vermont, Burlington, 1884; aged 56; for twenty-five years a practitioner of New York City; died at his home, April 7, from the effects of a gunshot wound of the head self-inflicted, it is believed, with suicidal intent.

Joseph Studer, M.D., Peoria, Ill.; University of Basel, Switzerland, 1853; aged 87; one of the founders of St. Francis' Hospital, Peoria, in 1876, and a member of the staff for many years; who moved to California in 1910; died at his home in Los Angeles, April 7.

Orin Warren, M.D., West Newbury, Mass.; Jefferson Medical College, 1858; aged 82; a member of the Massachusetts Medical Society and consulting physician to the Anna Jaques Hospital, Newburyport, Mass.; a veteran of the Civil War; died at his home, April 6.

James Christopher Mathews, M.D., Gay, Ga.; Medical College of Georgia, Augusta, 1885; aged 60; for a time a member of the faculty of his alma mater; local surgeon of the Atlanta, Birmingham and Atlantic Railroad; died in a sanatorium in Atlanta, April 11.

Wilford Baylus Hardin, M.D., Dallas, Tex.; Southern Methodist University, Dallas, 1911; aged 27; a member of the State Medical Association of Texas; professor of gynecology in his alma mater; died in El Paso, Tex., April 10, after an attack of influenza.

Andrew Capers Doggett, M.D., Fredericksburg, Va.; University of Virginia, Charlottesville, 1875; aged 63; for thirty-five years surgeon for the Atlantic Coast Line and other railways at Fredericksburg, Va.; died at his home, April 13, from carcinoma of the stomach.

Seth Vale Goldthwaite, M.D., Allston, Boston; Boston University School of Medicine, 1880; aged 67; a member of the Massachusetts Medical Society; a veteran of the Civil War; died at his home, April 9, after an invalidism of nearly twenty years.

Oscar Joab Stafford, M.D., Portchester, N. Y.; University of Buffalo, N. Y., 1888; aged 61; a member of the Medical Society of the State of New York; while making a professional call near his home, April 12, died suddenly from heart disease.

Walter Lathrop Turnbull, M.D., San Francisco; Hahnemann Medical College of the Pacific, San Francisco, 1904; aged 39; formerly superintendent of the City and County Hospital; died in Berkeley, Calif., March 30, from lobar pneumonia.

Millard F. Corkran, M.D., Wilmington, Del.; University of Maryland, Baltimore, 1884; aged 57; a member of the Delaware State Medical Society; died in Jefferson Hospital, Philadelphia, April 7, from hemorrhage of the stomach and intestines.

Thomas Walter Dorsett, M.D., Willacoochee, Ga.; Atlanta College of Physicians and Surgeons, 1902; aged 36; a member of the Medical Association of Georgia; formerly a Fellow of the American Medical Association; died at his home, April 4.

Simeon Hunt, M.D., East Providence, R. I.; Dartmouth Medical School, Hanover, N. H., 1865; aged 78; formerly a Fellow of the American Medical Association; a member of the Rhode Island Medical Society; died at his home, April 5.

Hugh Henry Elliott, M.D., Rushville, Ind.; Miami Medical College, Cincinnati, 1895; aged 66; for many years a practitioner and pharmacist of Glenwood, Ind.; died suddenly near his home in Rushville, April 5, from heart disease.

Felix B. Robison, M.D., Coldwater, Mich.; Eclectic Medical Institute, Cincinnati, 1867; aged 72; a practitioner of Monticello, Ind., until 1913, when he moved to Coldwater; died at his home, April 3, from cerebral hemorrhage.

Smith Cooper, M.D., Wilmington, Del.; University of Pennsylvania, Philadelphia, 1876; aged 64; a Fellow of the American Medical Association and a well known practitioner and druggist; died at his home, April 6.

Otho Magruder Muncaster, M.D., Washington, D. C.; University of Maryland, Baltimore, 1866; aged 72; one of the oldest members of the Medical Society of Washington; died at his home, April 1, from leukemia.

Charles Claxton, M.D., Philadelphia; University of Pennsylvania, Philadelphia, 1882; aged 57; a fellow of the College of Physicians of Philadelphia; died at his home in Germantown, April 3, from pneumonia.

William Troy Turlington, M.D., Fremont, N. C.; College of Physicians and Surgeons, Baltimore, 1894; aged 49; a director of the Bank of Fremont; died at his home, March 30, from cerebral hemorrhage.

Claredon Skillman, M.D., Roachdale, Ind.; Barnes Medical College, St. Louis, 1903; aged 54; a practitioner and druggist; died in the Indianapolis City Hospital, April 2, from cerebellar hemorrhage.

Alfred Boultbee, M.D., Toronto, Ont.; University of Toronto, 1891; aged 47; editor of *Kennel and Bench;* one of the foremost authorities on kennel affairs in Canada; died at his home, March 16.

Samuel Herskovitz, M.D., East Chicago, Ind.; Washington University, St. Louis, 1908; aged 32; also a pharmacist; died in the South Shore Hospital, South Chicago, March 31 from gastric ulcer.

Arthur L. Hill, Monticello, Minn.; (license, Minnesota, 1896); aged 45; a Fellow of the American Medical Association; died in the Northwestern Hospital, Minneapolis, March 27.

James M. Griffin, M.D., Penfield, Ga.; Medical College of the State of South Carolina, Charleston, 1858; aged 80; died at the home of his daughter in Penfield, March 31, from senile debility.

Emil V. Klinkowstroem, M.D., Denver, Colo.; Rush Medical College, 1896; aged 61; while despondent on account of ill health, severed eight arteries and died from loss of blood, April 2.

James H. Gibson, M.D., Dunbar, Wis.; Baltimore Medical College, 1893; aged 65; for fifteen years a practitioner of Green Bay; died at his home in that city, April 5, from dropsy.

Marie W. Hawley, M.D., Bayfield, Wis.; Iowa Eclectic Medical College, Des Moines, 1883; aged 75; died at her home Dec. 28, 1915, from cerebral hemorrhage.

William Theodore McCarty, M.D., Indianapolis Medical College of Indiana, Indianapolis, 1885; aged 59; died at his home, April 7, from cerebral hemorrhage.

James Pope Brantley, M.D., Atlanta, Ga.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1882; aged 68; died at his home, March 31.

Thomas Dundon Collins, M.D., Ballston Spa, N. Y.; Albany, N. Y., Medical College, 1898; aged 49; died at his home, April 5.

Lewis D. Wiley, M.D., New Berlin, Ill.; University of Louisville, Ky., 1887; aged 63; died at his home, April 4, from nephritis.

John T. Rather, M.D., Houston, Tex.; University of Louisville, Ky., 1873; aged 68; also a druggist; died suddenly, March 30.

Joseph F. Meffert, M.D., Kansas City, Mo.; Hospital College of Medicine, Louisville, 1882; died at his home, March 29.

Howard A. Brooks, St. Joseph, Mo.; (license Missouri, 1899); died in a hospital in St. Joseph, April 1.

Correction.—The announcement in THE JOURNAL of April 15 of the death of Dr. William Hayden Campbell, formerly of Kalispell, Mont., at Los Angeles, was erroneous. Dr. Campbell, who went to Los Angeles about a year ago much run down in health, has greatly improved and is believed to be well on the road to robust health.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THE WINE OF CARDUI SUIT

(*Continued from page 1342*)

April 12, 1916, Afternoon (*Cont.*)

TESTIMONY OF DR. JOHN CLARENCE WEBSTER (*Cont.*)

CROSS-EXAMINATION BY MR. HOUGH

On cross-examination the witness was asked to furnish, to the counsel for the plaintiff, the names of the patients mentioned in his direct examination.

He stated specifically the various symptoms presented by the first patient and was asked to differentiate between what is learned from history and from physical examination.

Q.—Well, now, then, putting the question in the other form—what did you discover by the physical examination, which she had not told you in giving you the history of the case, before you opened the stomach? *A.*—I made a physical examination, and I found that the vagina was torn—the perineal body torn, so that the width of my hand passed right into the vagina. I found the neck of the womb lying low down, about an inch from the entrance—

Q.—One minute. Whenever there is a prolapse, the perineum is always torn; is it not? *A.*—Not necessarily; I have seen a prolapse of the uterus in a young woman who never had a child, or never had a tear.

Q.—But I mean in the case of a woman who has had a child, a prolapse is always accompanied by a torn perineum? *A.*—Not necessarily, Mr. Hough.

THE COURT:—It is usually?

The Witness:—Usually, yes, a torn or stretched perineum.

Mr. Hough: *Q.*—So that when she told you she had a prolapse you knew that there was a torn perineum, without an examination? *A.*—I made an examination for—

Q.—I am not talking about what you did to confirm her statements, but what you discovered, which you had not learned from the statements which she had made to you? *A.*—Well, generally, when a patient says she has a prolapsus, in your mind you feel that probably there is a torn perineum, or stretched perineum; certainly.

Q.—Now, then, what, in addition, did you learn from your examination, which you would not know or have reason to suspect or believe from her history of the case? *A.*—I learned the extent of the prolapsus, the size of the womb, the condition of the tubes and ovaries, the position of the bladder, and the rectum.

Q.—Now, how did you learn the condition of the tubes and ovaries from the examination which you made, prior to the opening of the stomach? *A.*—By the woman being placed on her back, her limbs elevated, my fingers placed in the vagina, two fingers of the right hand placed in the vagina, my left hand placed on her abdominal wall, she breathing gently and quietly, and my hand pressing down, I felt the enlargement of the tubes and ovaries; and it caused her great tenderness.

"PAIN IN THE OVARIES"

Q.—Had she complained of her ovaries causing her tenderness? *A.*—Not specifically; but patients very often have it—

Q.—Did she generally? *A.*—Patients very often have marked ovarian disease, and never use the word "ovary," Mr. Hough, in complaining of it.

Q.—Don't they know from the pain which they have in the ovaries? *A.*—Not at all. How could they?

Q.—Never do? *A.*—Some people say they have pains in the ovaries. I have known of patients who over and over again said they had pain in the right ovary, and opening it up, I found the appendix was at fault, and not the ovary. The patient does not know, and cannot.

Q.—You mean the patient can never tell her trouble is in the ovary? *A.*—She can only guess at it, never know. Knowledge is a matter of scientific exploration and examination.

GUESSING AND DIAGNOSING

Q.—Isn't that all the doctor does, until he cuts her open? He guesses at it, at what the disease is? *A.*—He does not guess at all. I am speaking for myself.

Q.—Doesn't he? *A.*—No.

Q.—Doesn't he frequently cut her open, and then find he has made a mistake in the diagnosis? *A.*—Certainly. *Humanum est errare;* and that applies to the surgeon as well as to any other man.

Q.—Therefore he is guessing? *A.*—He may be guessing, and yet doing his duty.

Q.—That is not what I asked you, doctor, whether he is doing his duty. The question is whether he knew absolutely, or whether he was not merely guessing. *A.*—Of course he does not know always, absolutely. That is common knowledge.

Q.—Did you ever diagnose a case of a fibroid tumor, and discover it was a living fetus, after you had cut it open? *A.*—After I had cut the abdomen open?

Q.—Yes; after you had taken out the uterus? *A.*—No, sir.

Q.—Have you ever heard of such a case? *A.*—Yes, sir; it has happened. I have heard of that many times.

Q.—It happens frequently, doesn't it? *A.*—It has happened; I cannot say how frequently.

Q.—Were you ever present at any of those operations? *A.*—Where the uterus was taken out, no.

Q.—No—a mistake, thinking it was a fibroid tumor? *A.*—I don't recall that. I have opened the abdomen myself, and have found a pregnancy present. I have made that mistake. I am not claiming any infallibility—but I never happened—it never happened to be my lot to take the uterus out and find that there was a pregnancy there.

Q.—When those things occur, you never tell the woman or her husband, do you, that you have made a mistake?

Mr. Scofield:—Now, I object to that, if the Court please, to that statement.

THE COURT:—Objection sustained.

To which ruling of the Court the plaintiffs, etc., excepted.

Mr. Hough: *Q.*—How many times have you made a mistake when you have cut a woman open, that you know of?

Mr. T. J. Scofield:—I object to that, if the Court please.

The Witness:—I cannot tell.

Mr. Hough:—He has said that his diagnosis—

THE COURT:—Well, the doctor said he did not know. I presume that question was asked primarily to learn the witness' qualifications to give his opinion.

Mr. Hough:—Undoubtedly.

THE COURT:—It could not have been asked for any other purpose.

Mr. T. J. Scofield:—Well, I withdraw the objection, then, if the Court please. Let him answer. I withdraw the objection. Let him answer.

Mr. Hough:—He has already answered. He did not know how many times he has done it.

Mr. T. J. Scofield:—What is the answer, Mr. Reporter?

(Answer read as follows: "A.—I cannot tell.")

Mr. Hough: *Q.*—How long after the operation did you see the woman? *A.*—How long after—

Q.—We are talking now about the first case. *A.*—Yes. When did I see her next?

Q.—Yes. *A.*—Next day.

Q.—When did you see her last? *A.*—Yesterday.

Q.—She is not entirely recovered yet, is she? *A.*—No, she is not walking yet.

Q.—You do not know whether she will live or die, yet, do you? *A.*—I don't know. She is in good condition.

Q.—But the operation was a success? *A.*—It was a success. I did not describe the operation, Mr. Hough. I operated on her, you know.

Q.—I understood you to say you did operate? *A.*—Yes, I did, but I did not describe any details.

Q.—Then I must have understood it in some other way. You took out the ovaries, you said, didn't you? *A.*—I don't know as I described the entire operation. Did I?

Q.—Yes. Well, just describe the operation. You took out the ovaries? *A.*—I repaired her perineum—

Q.—First? *A.*—First.

Q.—Before you cut her stomach open? *A.*—Is this the—

Mr. Scofield:—I object to that. I have not heard him say anything about that.

Mr. Hough:—Well, the abdomen, I mean.

Mr. T. J. Scofield:—Well, that is different.

The Witness:—Yes, I operated on the perineum. We always do that before we open the abdomen; then I opened her abdomen, and treated her—operated on her after I observed the effect of these drugs.

Mr. T. J. Scofield:—Doctor, will you speak a little louder, so that the jury can hear?

The Witness:—Yes. I say after I tested the effects of these drugs, I operated on her troubles—I removed the ovaries and tubes and the principal parts of the uterus, and stitched the ligaments—shortened the round ligaments, stitched them into the stump of the uterus, so that it would help to hold it up well.

Mr. Hough: *Q.*—Now, what do you call that operation? *A.*—It is a complex operation.

Q.—But, does it have a name? *A.*—Yes; supravaginal hysterectomy, removal of the tubes and ovaries.

Q.—No, but does it go by the name of any man, the doctor who first tried the operation? *A.*—So many—there is no special name that I could give—so many doctors have introduced modifications for those operations, that at the present time I would—I do not call that by any doctor's name.

Q.—Now, am I right in thinking that you did all this before you opened the abdomen? *A.*—No, no, after opening the abdomen, Mr. Hough.

Q.—Well, I misunderstood you, then. I thought you said you first sewed up the perineum? *A.*—Yes, the perineum is the part down below that is torn.

Q.—That is, you joined it together by a surgical operation, and sewed it? *A.*—Yes, then I opened—

Q.—Now, was that before you opened this abdomen, or afterwards? *A.*—Yes, sir, before.

Q.—That was before? *A.*—Yes, sir.

CURETTEMENT

Q.—Now, did you say you did any other work before you opened the abdomen? *A.*—Curetted her.

Q.—You curetted her? *A.*—Curetted her.

Q.—In how many cases is curetting regarded as unsatisfactory? What percentage of cases, would you say? *A.*—Unsatisfactory?

Q.—Yes? *A.*—Why, Mr. Hough, I cannot answer that; I don't know.

Q.—Don't you know that medical writers refer to it as a very unsatisfactory operation? *A.*—I don't know, nor do I care what medical writers refer to. I am concerned with my own experience.

Q.—In other words, the opinions which you have been expressing, would not be affected one iota by anything that any medical writer would say on the subject? *A.*—I could not say that. I am concerned with my own experience in such matters.

Q.—Well, have you had any experience in which curetting was not satisfactory? *A.*—I have.

Q.—In what percentage of cases would you say it was not satisfactory? *A.*—I should say that in the great majority of gonorrheal inflammation in the womb, that curettement is very unsatisfactory.

Q.—In any other cases would it be unsatisfactory? *A.*—I have found it unsatisfactory in cases of chronic inflammation of the womb, which is associated with what we call a chronic venous congestion, such as is found with varicose veins. A curettement there helps a woman for a little while, and then the condition is as bad as ever again.

Q.—May we say that curettement destroys the possibility of pregnancy in a woman? *A.*—On the contrary, curettement is frequently employed for the purpose of helping a woman to conceive, by giving her a chance of developing, or growing a new lining of the womb.

Q.—Does it, in any case interfere with pregnancy or prevent her from having a child again? *A.*—I don't know of any example where curettement has been done properly, and the patient has recovered satisfactorily, that there has been any effect in that direction.

Q.—Well, but do you know of any cases in which the patient did not recover satisfactorily? *A.*—Certainly; yes, sir, I do. I have seen cases where a patient has been curetted and has developed infection afterwards, and that infection has destroyed her tubes, for example, and prevented her from becoming capable of child bearing afterwards.

Q.—In such cases, is the patient ever told what has been done to them? *A.*—I—

Mr. T. J. Scofield:—I object to that question, if the Court please.

THE COURT:—Objection sustained.

Mr. Hough:—I will withdraw that question. I think he said he didn't know—had you answered?

The Witness:—No, I did not. I had not answered it.

THE COURT:—Objection sustained.

Mr. Hough: *Q.*—Well, you opened the abdomen. Then what did you do next? *A.*—I examined the contents of the abdomen, the condition of the appendix, the gallbladder, stomach, and so on.

Q.—Now, up to this time you had not made any experimentation with the Wine of Cardui, had you? *A.*—No, sir.

Q.—Now, then, you opened the stomach, and you examined these parts? *A.*—The abdomen.

Q.—I mean the abdomen. *A.*—On opening the abdomen I examined these parts; the first thing I did was to examine the uterus, and to inject the Wine of Cardui.

Q.—From the opening in the abdomen? *A.*—Yes, the abdomen was open, and there was the womb lying there, which I exposed, easily seen.

Q.—You didn't inject it through the vagina? *A.*—Oh, no.

Q.—Through the opening in the womb? *A.*—Oh, yes.

Q.—And how long did you wait to see whether it would have an action? *A.*—Well, then I waited while I was examining the rest of the abdomen, the structures, to study them, to study the condition of the uterus, the condition of the ligaments, and so on. As I said, in ten minutes there was no evident effect.

Q.—Now, how much did you inject? *A.*—Six drams.

Q.—Just as it comes, with the alcohol and all? *A.*—Yes.

Q.—And you did that, believing and knowing that it was of no value, and might be injurious because of the alcohol? *A.*—I have frequently injected alcohol in patients without any injurious effect, more than twenty per cent. alcohol, Mr. Hough, in the abdomen.

Q.—But didn't you state that you regarded the alcohol in this medicine as dangerous? *A.*—As dangerous?

Q.—Yes, for a woman to take who had any of those troubles at all? *A.*—I said that alcohol, or Wine of Cardui containing alcohol, medicines containing alcohol continued as a remedy over a period of time would not have a beneficial, but deleterious effect on the patient's diseased condition. At least I meant to so state.

Q.—You mean that one or two doses would not have any effect? *A.*—I was trying to test the effect of one dose on that patient.

Q.—But when you did it you had already formed the opinion that it would not have any effect, hadn't you? *A.*—I approached the subject in an open mind; tried to give it the same care and attention that I would use in trying any drug that might be recommended to me.

Q.—But you had already formed an opinion, hadn't you, Doctor, that it was worthless? *A.*—Oh, I had thought that it was worthless; yes, I say that.

Q.—And you had been told what the ingredients were? *A.*—I read the evidence, and knew them.

Q.—And so you approached it with that frame of mind, even though you did attempt to be unbiased in observing the effect? *A.*—I am here on oath, Mr. Hough, and I am describing what I found on using that Wine of Cardui, as accurately as I can.

Q.—Well, now, I say you had that knowledge of Wine of Cardui when you injected that amount into this woman; having the opinion that it was dangerous because it increased the inflammation? You stated that, didn't you? *A.*—Yes.

Q.—So you did it, believing it was dangerous because it would increase the inflammation, and that it would have no effect so far as the uterus was concerned? *A.*—One dose of that character would not have any effect, I mean from the alcohol, of importance, any deleterious effect.

Q.—You mean it would not increase the inflammation? *A.*—One dose?

Q.—Would have no effect? *A.*—I don't think so, no.

Q.—Now, you knew at the time you did it that the books which are written on the ingredients which are in Wine of Cardui, as assumed in the hypothetical question, said that the action was very slow? You knew that, too, didn't you?

Mr. T. J. Scofield:—I object to that question. Does he mean when taken by the mouth, or injected into the vein, or hypodermically, or how?

THE COURT:—I think there hasn't been anything said about the books up to the present time, so far as I know.

The Witness:—No, I don't think I ever knew anything about the length of time, Mr. Hough. I knew that it had been administered by the mouth.

Mr. Hough: *Q.*—I understood you to say that you had used viburnum prunifolium in liquid form in your practice? *A.*—Yes, sir.

Q.—For a number of years? *A.*—Yes, sir.

Q.—You did know what the books said on that subject, didn't you?

Mr. T. J. Scofield:—I object to that, as to whether he did or not.

THE COURT:—That is unimportant. The objection is sustained.

USE OF VIBURNUM

Mr. Hough: *Q.*—How did you come to use viburnum prunifolium in your practice originally? Did you discover it yourself? *A.*—No, sir; it was used in the school where I worked.

Q.—Was its use confined to that school? How did they commence to use it, if you know? *A.*—I don't know. I suppose they learned it from America, where it was much more used than in Europe at that time.

Q.—Do you mean some one from America came over there and told them about it? *A.*—I don't know. I don't remember.

Q.—Or whether they read about it in some book that came from America? *A.*—Possibly.

Q.—You don't know which it is? *A.*—No, sir, I don't know.

Q.—You are very sure of that—you don't know? *A.*—Yes.

Q.—Now, had you ever heard of carduus benedictus? *A.*—I never heard of carduus benedictus until I learned about this trial, or—

Q.—You mean this lawsuit? *A.*—Yes.

Q.—You had never seen it referred to in any literature when you were studying medicine? *A.*—No recollection; no, I am sure I never did.

Q.—And you didn't know that it was in the Edinburgh—that is a Scottish, isn't it—Pharmacopeia? *A.*—Yes, I never saw the Scottish Pharmacopeia.

Q.—Didn't you use the Scottish Pharmacopeia when you were in Scotland? *A.*—No, sir, that was along in—the British Pharmacopeia was in use when I was there. The Scottish was an old pharmacopeia, I believe.

Q.—Well, at any rate, you injected this amount, you stated, into the womb. Now, in what way, and in what part of the womb? *A.*—I injected part of it into the womb, a few drops, and part of it into the—

Q.—How many drops? *A.*—I had a syringe holding the six drams, the six drams that I mentioned. I presume I injected about two drams into the womb, in about the middle of the anterior wall.

Q.—Well, first you said you put in a few drops. How many drops? And where did you put that? *A.*—Into the anterior wall of the womb, in the middle line.

Q.—In the middle which? *A.*—In the middle line.

Q.—You mean midway between the fundus and the cervix? *A.*—Yes, half way across the top of the womb.

Q.—Well, then you mean in the fundus? *A.*—Yes, in the fundus; well, anterior wall, just below the fundus. Then I took out the needle and injected some more into the base—into the attachment of the round ligament on each side.

Q.—About how much more? *A.*—Of course I didn't measure that accurately. I presume about a dram.

Q.—Well, now, doctor, would you consider that a fair experiment? *A.*—Would I what?

Q.—Without measuring or knowing anything about how much you put in? *A.*—I had the total amount there.

Q.—Well, go ahead. What was the next? *A.*—And the rest I injected into the broad ligament.

Q.—Into the broad ligament, and not into the womb? *A.*—Well, I had already injected into the womb.

Q.—But you don't know how much? *A.*—The balance.

Q.—No, the balance you injected into the broad ligament, you say? *A.*—Yes.

Q.—Well, now, how much had you injected into the womb? *A.*—I said at first I thought about two drams; two drams about.

Q.—I understood you to say a few drops at first. *A.*—Well, a small quantity. About two drams.

Q.—Yes, a few drops. What do you call a few drops?

THE COURT:—There is a difference of opinion between you and the witness. The witness says two drams, and you say a few drops.

Mr. Hough:—If the court, please, he started with two drops—

THE COURT:—Well, you are both talking together, and you say drops, and he says drams. Now I don't know, and the jury doesn't know which it is.

Mr. Hough:—I will start over again.

The Witness:—If you will let me I will explain.

Mr. Hough: Q.—You started first with two drams?

The Witness: A.—I started first with a few drops; I cannot say whether it was five—

Mr. Hough:—Now just a minute.

Mr. T. J. Scofield:—I submit he ought to be allowed to finish his answer.

Mr. Hough: Q.—You started with two drams in a receptacle?

Mr. T. J. Scofield:—I object to that.

The Witness: A.—No.

Mr. Hough: Q.—How much did you start with? A.—Six drams.

Q.—Six drams. And you first injected a few drops into the womb just below the fundus? A.—Yes, sir.

Q.—Now, do you know how many drops you injected at that time? A.—As I said, a few drops. I can't say whether it would be six or eight or ten drops. You cannot measure—it would be difficult to measure that way, pouring out of the syringe.

Q.—Now then, the next injection was where? A.—Then I injected more, to probably about two drams into that same portion of the uterus.

Q.—On the same side of the womb? A.—The same portion.

Q.—But the same side? A.—The middle, yes, the same. The anterior wall. Then I went to each round ligament at the attachment to the womb and injected there about a dram, and the balance I injected into the broad ligament.

Q.—So that would make about three drams into the broad ligament, would it? A.—About three drams, or a little less. Somewhere about that. Between two and three drams.

Q.—Now that was before you did anything with reference to the operation, except to open the abdomen. And what was the next thing you did? A.—The next thing I did was to operate on the tubes and ovaries.

Q.—How soon did you commence to do that after these injections? A.—Oh, I stated that in ten minutes—well, I beg your pardon, Mr. Hough, I had forgotten the use of the pituitrin. I waited ten minutes, and then I used the pituitrin to test its effect on the uterus and on the ligaments. And of the pituitrin I used two ampules of fifteen minims each.

Q.—Well, what did you do next? How soon did you say? Was that ten minutes? A.—Yes, sir, ten minutes.

Q.—Now, then, when you made these injections how long did you wait? A.—Do you mean the pituitrin injections?

Q.—Yes, sir? A.—Inside of one minute the effect of the pituitrin was established. Contraction, hardening of the womb. No effect on the ligaments. I then proceeded to operate on the patient.

Q.—That is, the pituitrin had no effect on the ligaments? A.—No, no effect on the ligaments.

Q.—But did have an effect on the womb? A.—Yes, sir.

Q.—Now, may I ask whether the ligaments were striped or nonstriped fiber? A.—Non-striped fiber.

Q.—Nonstriped fiber. And pituitrin had no action on nonstriped fiber? A.—It had no action on the round ligaments. I have repeated that observation many times, both in the pregnant and the nonpregnant condition.

Q.—Well, now, after doing that what did you next do? A.—I then operated on the patient.

Q.—That is, within one minute after— A.—After that ten minutes' observation of the effect of Wine of Cardui.

Q.—Now, what was the operation? What did you do? A.—Removal of the diseased tubes and ovaries and upper part of the womb with this suturing of the round ligaments into the stump of the cervix that was left, in order to get a good, firm pelvic floor at the base of the broad ligaments.

Q.—If the woman lives will she ever be able to have a child? A.—No.

Q.—Do you know whether medication is ever recommended as the thing to be tried first before that kind of an operation should be performed? A.—This patient had been in the hands of the doctors for a long time, Mr. Hough, and for some time previous she had been at, I think it was the dispensary, the Central Free Dispensary, though I haven't got that here; she had been under treatment for a long time in the dispensary, the Central Free Dispensary.

Q.—You don't know what that treatment had been? A.—I can't tell you now.

Q.—How long did the operation require? A.—All together?

Q.—Yes? A.—The removal operation, you mean?

Q.—The whole thing, from the time you first cut? A.—I should say about one hour.

Q.—Did you have assistants with the work? A.—Yes, sir.

Q.—How many? A.—One anesthetist, two helping me in the operation, one head nurse and two assistant nurses.

Q.—Did any of them know that you were making an experiment on the uterus with Wine of Cardui? A.—All of them.

Q.—All of them knew that? A.—As far as I know, yes.

Q.—Did they all have the same opinion about Wine of Cardui before they commenced that you had? A.—I never discussed it with them, Mr. Hough. I can't tell you that.

Q.—Well, how did they know that the experiment was to be made for that? For the effect of Wine of Cardui? A.—Well, I had the Wine of Cardui, I had it given to me by my head nurse. It was poured into the glass and put into the syringe.

Q.—And you mean that none of them knew what you were going to do with it? A.—Why, yes, the nurses, they knew.

Q.—Any of the assistant physicians know what you were going to do with it? A.—Why, they saw me use it.

Q.—Did any of them protest at anything you were doing? A.—No, sir.

Mr. T. J. Scofield:—If the Court please, I object to that question.

THE COURT:—We will stop now for a few minutes, gentlemen.

(Thereupon a fifteen minute recess was taken.)

Mr. Hough: Q.—Doctor, how long was it before you injected the Wine of Cardui into the uterus that you had curetted the womb? A.—I should say fifteen to twenty minutes.

Q.—Fifteen to twenty minutes. How long did the curetting process take? A.—I suppose from one to two minutes.

Q.—That was performed through the vagina, wasn't it? A.—Yes, sir.

Q.—Was there anything else the matter with the womb that needed attention, other than the curetting? A.—The womb was enlarged and in a state of chronic inflammation.

Q.—How much above normal was it enlarged? A.—About an inch too long.

Q.—An inch? A.—Yes.

Q.—An inch longer than normal? A.—About an inch longer than normal.

Q.—What would you say it would weigh? I mean over the normal weight? A.—Well, I guess—that is only a guess, Mr. Hough, in answer to that.

Q.—Approximately? A.—Approximately I should say it weighed two and a half to three ounces; three ounces possibly.

THE COURT:—Do you mean more than normal? A.—No, sir.

Mr. Hough:—No, the total? A.—The total.

THE COURT:—The total? A.—About three ounces, I should think.

Mr. Hough: Q.—And what would you say was the normal weight of that womb, the womb in that woman? In some women it varies a little, doesn't it? A.—Oh, it varies. The normal womb in a healthy adult woman who has never borne children, it weighs from one ounce to an ounce and a half, an ounce and a quarter.

Q.—Did you say she had never borne children? A.—No, I say in a woman, a normal woman.

Q.—Had this woman borne children? A.—Yes.

Q.—What would be the average weight in a woman who had borne children? A.—A couple of ounces; two and a quarter.

Q.—So the increased weight would be about an ounce, approximately? A.—Approximately.

Q.—Now, would you think the curetting would have had any effect upon the action of the carduus, the Wine of Cardui? A.—The curettement?

Q.—Yes? A.—No, sir.

Q.—Was the womb still bleeding? A.—No, sir.

Q.—How had you stopped it? A.—By using iodin, an iodin swab to the interior.

Q.—How much did you use? A.—I had a small glass of the tincture of iodin. I had a long applicator with some cotton wrapped on it, soaked it in the iodin, and swabbed the interior of the uterus twice. How much actually was applied I couldn't say.

Q.—Could you tell what became of the Wine of Cardui that you injected into the womb and the broad ligament? A.—When fluid is injected by a needle into tissues it saturates the tissues in which it is placed. It gets into the lymph spaces, it gets into the cells of the fibrous tissue and the muscular tissue, and in time it will disseminate into the circulation.

Q.—Would any of that have flowed away at all? A.—I should say not in the ten minutes that I observed it before I started the operation.

Q.—And you are sure none got into the abdominal cavity outside of the womb? A.—Oh, yes, yes. I put it right into the muscle, the musculature of the womb.

Q.—But it would hold it like a sponge to a certain amount, wouldn't it? A.—It would stay in the uterus.

Q.—Well, if you got too much then it would flow away somewhere, wouldn't it? A.—Yes, but I held my finger on the prick-hole.

Q.—On the which? A.—On the hole that I made with the needle.

Q.—Well, do you know whether it went inside of the womb or not? A.—Inside of the womb? Do you mean into the cavity?

Q.—Yes? A.—No, it couldn't get into the cavity because I introduced it into the muscle.

Q.—There was no way for it to flow away, and you are sure it was all in the womb, all that was put in the womb? A.—All that I put in the womb, yes.

Q.—And you are sure that the half which went in the broad ligaments remained in the broad ligaments? A.—Yes.

Q.—How much would you say is two ampules? A.—Of pituitrin?

Q.—Yes. That is just a little prepared tube, isn't it? A.—Yes.

Q.—In a disinfected form, that is, antiseptic form? A.—There it is, Mr. Hough, if you would like to have it (Exhibiting).

Q.—What is that? A.—That is the ampule of pituitrin.

Q.—You used two of those? A.—Yes.

Q.—Just show it to the jury, if you please. I mean, just hold it up so the jury can see it.

(The doctor exhibited the ampule of pituitrin to the jury.)

Mr. Hough: Q.—That is simply a form in which certain medicines come, when they want to keep them? A.—Yes.

Q.—How much of the womb did you cut away? A.—All down to the neck of the womb.

Q.—Then the curetting was unnecessary, wasn't it? A.—Yes. The reason why I curetted was that I hoped that when I got inside I could do a conservative operation. That is frequently done.

Q.—What would you call a conservative operation? A.—Not removing as much as I had to remove in that case.

Q.—You mean not as much of the womb, or not removing the womb at all? *A.*—A radical operation in the abdomen, in connection with such parts, may be construed differently by different men. By radical operation is meant the removal of some important structure or organ.

Q.—Now, after the woman was operated upon, and she came out from under the anesthetic did you tell her what you had taken out? *A.*—No.

Q.—Didn't she tell you that she didn't want her womb removed? *A.*—No, she gave me her consent. I never operate without consent to do what in my judgment seems best for the patient, Mr. Hough.

Q.—Well, now, take the second case. *A.*—That consent, may I say, is always written when the patient enters the hospital, and witnessed by witnesses.

Q.—The second case was retroversion of the uterus. And a torn perineum. Was there anything else the matter? *A.*—Yes, sir, pus tubes, chronic ovaritis, enlarged womb, chronic inflammation of the womb with abundant adhesions throughout the woman's pelvis.

Q.—How old was that patient? *A.*—I find that that is not here, Mr. Hough, but I think she was thirty-eight or thirty-nine years old.

Q.—And when did this operation occur? *A.*—Last week.

Q.—Last week. Did all these operations occur last week? The five? *A.*—No. Yesterday was Monday, wasn't it, the 10th?

Q.—Day before yesterday. *A.*—Day before yesterday I had that abortion case, and the case of a girl twenty-five years old.

Q.—Are those cases four and five? *A.*—I am afraid I haven't read these in order. I can't say how the reporter got them down.

Q.—Well, they were all either last week, or since? *A.*—Yes, sir, last week, and Monday of this week.

Q.—You don't know how old the second patient was?

Mr. Walker:—He said he thought she was about 39 or 38.

The Witness:—I think thirty-eight or thirty-nine, Mr. Hough.

Mr. Hough: *Q.*—Married or single? *A.*—Married.

Q.—Had she had children? *A.*—Yes, sir.

Q.—Now, what did you first do with her? *A.*—I repaired her perineum.

Q.—The same as in number one? *A.*—The same as in the other case.

Q.—And next? *A.*—Opened the abdomen.

Q.—No curetting? *A.*—I don't think so. I have no curettement marked in my notes.

Q.—And after repairing the perineum you opened the abdomen? *A.*—Yes, sir.

Q.—What examination did you make of her before you commenced to operate? *A.*—I made two examinations of her, two different ones. I made an examination of her in my office about a week previously. I made another examination in the hospital.

Q.—Was she a pay or charity patient? *A.*—Pay patient.

Q.—Pay patient? *A.*—Yes, sir.

Q.—And you sent her to this hospital? *A.*—Yes, sir.

Q.—Now, what did you learn by manual or digital or physical examination about her case which you did not learn from her recital of the history of the case? *A.*—I heard her symptoms first. She complained, and told her story.

Q.—What did she say her trouble was? *A.*—Her troubles— she said nothing about, if you mean prolapse, or perineum, she said nothing about those things. She complained—

Q.—Did she have a prolapse? *A.*—No, no prolapsus. It was a retroflexion case like in that chart, Number C. (Indicating Chart C in the court room.)

Q.—Well, what did she say? *A.*—Her complaints were backache and dragging, incapacity for exertion, nervousness, loss of weight, running down, white discharge; I can't remember perhaps any more than that, but I know that those were present.

Q.—Well, now, what additional did you learn before you performed laparotomy, that is, cut the abdomen? That is the term, isn't it? Laparotomy? *A.*—Yes, sir.

Q.—And what did you learn from a physical examination in addition to what you had learned, or thought you had learned from her statement of the case? *A.*—Well, Mr. Hough, from her statement of the case I had no idea, no exact idea of what I should find, but when I examined her I had an idea and found that she had a torn perineum, that she had an enlarged, retroflexed, fixed uterus, and that on each side of that womb was a mass—

Q.—Just a second. Had she told you that she had recently had a child? *A.*—No, because she had not.

Q.—Had not? *A.*—A long time since. I found on each side a swelling that would approximately be the size of a hen's egg, a good sized hen's egg, fixed, and exquisitely tender. Those swellings were quite distinctly and decidedly tubal-ovarian inflammatory swellings, fixed.

Q.—Now, did you learn anything about her organs by cutting her open which you did not know before you performed that operation? *A.*—Nothing of any importance.

Q.—In other words, would you call that an exploratory operation? *A.*—No, sir, an exploratory operation is done in the case of a person when you have no idea and are in doubt. For instance, the other day I had a swelling in the upper part of the abdomen, and I wasn't sure whether it was a kidney swelling or a liver swelling.

Q.—You mean your abdomen, or some woman's? *A.*—A woman's abdomen. I wasn't certain at all. I explained it to the woman and her husband, and got their consent, and opened to find out. That is what I call an exploratory incision. And I found out that I was wrong. I had thought it was a kidney tumor, but it was really a cancer of the liver, and the kidney was close to it, and I was wrong.

Q.—But that was what you mean by an exploratory operation? *A.*—That is what I mean by an exploratory operation.

Q.—Now, then, will you proceed with Number 2, and proceed to tell what you did when you cut her open? *A.*—Yes, sir. I trust these are in the same order.

Q.—It was the retroversion of the uterus case. *A.*—Yes, sir, with the adhesions, and the pus tubes, conditions like this, only smaller. (Referring to uteri preserved and contained in glass vessel.)

Q.—And the torn perineum? *A.*—And the torn perineum. Well, I told you that I operated on the perineum; then we opened the abdomen. In this case my notes show three drams of the Wine of Cardui introduced into the uterus, which in this case was a firm uterus, nonrelaxed. Part of it into the uterine wall, into the muscle.

Q.—You mean the same as in Number 1? *A.*—The same as in Number 1.

Q.—And about the same place? *A.*—Yes, about the same place.

Q.—Now, you say a part of it. What part of it? *A.*—I should say about a half, Mr. Hough, because this was a small amount, and I only intended here in this experiment to inject the round ligaments again, not the broad ligaments. I injected about half, I should say, into the muscle of the uterus, and the rest on each side into the round ligament where it joins the uterus, so that I presume that a dram and a half would go into the wall of the womb, and the rest, in about equal parts, into the ends of the round ligaments.

Q.—When you say "go into" you mean you think they would retain that much? *A.*—Well, they did retain it. I saw that they retained that much. None escaped into the abdominal cavity. My finger was placed on the needle puncture at once when it was administered.

Q.—Well, now then, what did you observe? *A.*—I just observed the parts, and again in ten minutes there was no change in the muscle of the womb, no change in the round ligaments.

Q.—Did anyone else observe it with you? Were you the only observer? *A.*—Oh, no, my assistants were there. Dr. Small was there.

Q.—And this was after the first operation on the first woman, was it? Are these numbers stated in chronological order also? Was number one woman the first that you made the test on? *A.*—Well, this case that I am talking about now, Mr. Hough, the retroversion case—you see, I had two retroversion cases—this was on the 10th, that is, Monday.

Q.—Then that was not second in point of time? *A.*—No. On Monday I had two cases—I beg your pardon, that is not right. On Saturday that case was done.

Q.—You mean number two was on Saturday? *A.*—Yes, the case I am talking about now was Saturday. I have the wrong date here.

Mr. Walker:—Last Saturday?

Mr. Hough: *Q.*—That was this last Saturday? *A.*—Yes.

Q.—And this was the patient that first consulted you at your office? *A.*—Yes, sir.

Q.—And you sent her to the hospital? *A.*—Yes, sir.

Q.—Well, now, you observed for how long? *A.*—Ten minutes.

Q.—Ten minutes? *A.*—Yes.

Q.—Did you use a microscope of any kind, or a magnifying glass? *A.*—No, my eyes are good. Only ocular.

Q.—You couldn't observe any action? *A.*—No, sir, I couldn't observe any action, neither hardening nor softening.

Q.—Did you expect to find any action within that time? *A.*—I did, if there would be an action in the toning of the uterus.

Q.—But as in the other case, you were satisfied that there would not be? *A.*—Oh, yes. You see, in using the pituitrin and the other drugs which are tonics on the uterus the action on the uterus is very rapid, and pituitrin usually within a half a minute; sometimes not until nearly a minute.

Q.—Well, it is a well known fact that different drugs act in different lengths of time upon the uterus, isn't it? *A.*—Oh, yes.

Q.—Well, now, after you made this test what did you do next? I assume that you reached the conclusion that this had no effect on the uterus in that case? *A.*—Uterus or round ligament.

Q.—Uterus or round ligament. *A.*—I next injected one ampule of pituitrin into the uterus.

Q.—The same place? *A.*—No, into another part, a clean, unaffected part, a part where I had not injected before.

Q.—Very well. *A.*—My notes show blanching and contracting began in about one minute in the wall of the womb. No effect on the ligaments.

SYNERGISTIC ACTION

Q.—You think you excluded absolutely a synergistic action in both of these cases? *A.*—Synergistic action?

Q.—Yes. *A.*—You mean by that one drug helped the other to act?

Q.—Yes. *A.*—You mean that the Wine of Cardui helped the other to act?

Q.—Did you exclude the possibility of that? *A.*—I think so.

Q.—Well, if you had waited longer might not the Wine of Cardui have acted? *A.*—No, sir, I don't think so.

Q.—Well, but that is just a guess, isn't it? *A.*—What is that?

Q.—It is just a guess? *A.*—No, it is not a guess, because I—

Q.—How could you say that it would not have acted if you had waited longer if you didn't give any longer test? *A.*—All the drugs that I have worked with, that I know about as influencing the uterine muscle act, when injected directly into the muscle, inside of ten minutes.

Q.—All that you know of? *A.*—Yes, sir.

Q.—How many do you know of? *A.*—I know of ergot.

Q.—Does ergot act as quickly as pituitrin? *A.*—No, sir, pituitrin is the most quickly acting of all.

Q.—Did you inject ergot into any of these wombs? *A.*—No, I injected no ergot into any of these. I have frequently injected ergot into the womb.

Q.—Well, I am asking about these wombs now? *A.*—No, sir; no.

Q.—Did you compare the action of Wine of Cardui with any other drug which is supposed to act on the uterus, except pituitrin, in these cases? *A.*—Not in these cases, but I know of the action from previous work.

Q.—Well, drugs do not act on every womb exactly the same? They act differently, don't they? *A.*—I have never seen pituitrin fail to act in every case.

Q.—Did you ever use corpus luteum? *A.*—How do you mean, by injection?

Q.—Yes. *A.*—No, sir.

Q.—Any other way? *A.*—I have never given corpus luteum by the mouth, or any other way.

Q.—Did you ever use stypticin? *A.*—Stypticin, no.

Q.—By injection, or by the mouth? *A.*—No.

Q.—Styptol? *A.*—No, sir.

Q.—Did you ever try hydrastis? *A.*—Yes, sir.

Q.—By the mouth or by injection? *A.*—By the mouth and by injection.

Q.—Both ways? *A.*—Yes, sir.

Q.—How rapid is that in its action? *A.*—I have injected hydrastis; I have not used it in recent years. I used to inject it into the uterus direct, and I should say that the action begins in usually from two to three minutes; two to three minutes in my experience.

Q.—Did you ever use cimicifuga? *A.*—No, sir.

Q.—In any way? *A.*—Never.

Q.—Well, at any rate you didn't make comparison with anything else in this case except the pituitrin. And you really believed that there was no synergistic action? *A.*—I believe so, yes.

Q.—And then what did you do? *A.*—Are we still on that case?

Q.—Yes, sir; number two. *A.*—I stated that I injected one ampule of pituitrin into the uterus. You have got that.

Q.—Yes. *A.*—No effect on the uterus; no effect on the ligaments. Then I injected—

Q.—You say there was no effect from the pituitrin? *A.*—I mean there was the blanching and contraction within one minute on the uterus. No effect on the ligaments, on the round ligaments.

Q.—No effect on the ligaments? *A.*—The round ligaments.

Q.—But there had been in the other case, you say? *A.*—In which?

Q.—In number one case? *A.*—Never with pituitrin.

Q.—Never? *A.*—Never on the round ligaments. I have never seen any. Then I injected two ampules into the broad ligaments. One on each side. No effect.

Q.—Of pituitrin. In other words, the action of pituitrin on those ligaments was just the same as the action of Wine of Cardui? *A.*—On the ligaments just the same. No effect.

Q.—Now how long were you in injecting the pituitrin? *A.*—How long?

Q.—Yes. *A.*—Instantaneous. After ten minutes' observation of the effect of the Wine of Cardui.

Q.—That would take about a minute? *A.*—No, sir; not a second.

Q.—Well, but you made several injections. That would take longer than one second, wouldn't it? *A.*—I should say about a second to each one. Perhaps three or four seconds.

Q.—And how long did you wait to observe the action? *A.*—In about one minute the effect of the pituitrin was shown on the uterus.

Q.—What was that effect, as it appeared? *A.*—I beg your pardon?

Q.—What was the effect? *A.*—A blanching and whitening and a hardening of the uterine muscle; very marked.

Q.—Would you call that contraction? *A.*—Yes, sir; a stimulation, actual contraction of the muscle.

Q.—There may be blanching of the human flesh without contraction, may there not? *A.*—You can get blanching by constricting the vessels in a part.

Q.—In what other ways can you get blanching? *A.*—You can get blanching when you faint, for instance; the blood of the body goes to the great abdominal veins, and you get blanching of the face.

Q.—Any other way? *A.*—By a loss of blood from the body when a patient is hemorrhagic.

Q.—Does peroxid produce blanching? Peroxid of hydrogen? *A.*—Peroxid—I have always understood that the ladies used peroxid for blanching their hair, but I never knew any other effect.

Q.—Has no effect on the membrane? *A.*—I have never used it, sir.

Q.—Never tried it at all? *A.*—Oh, we use peroxid a good deal in dirty wounds, that is all.

Q.—Doesn't it blanch? *A.*—There is a slight blanching action.

Q.—That is without contraction, isn't it? *A.*—Oh, no; if it blanches it must contract the vessels, the capillaries.

Q.—Then you mean to say there can be no blanching without contraction? *A.*—Without contraction of vessels, the drainage of vessels.

Q.—Well now, after you made that observation what did you next do? *A.*—I then, when the contraction was well developed in the uterus and the organ was hard, I tried again the Wine of Cardui. I injected three drams.

Q.—This was on number two? *A.*—This is the same case.

Q.—Last Saturday? *A.*—Yes. I injected three drams in order to see if it might have some antispasmodic action and undo this hardening which was produced by the pituitrin.

Q.—And you found that three drams would not overcome the pituitrin action? *A.*—No, sir.

Q.—Would you say that six drams would not? *A.*—I do not know. I would say that I do not think it does.

Q.—Would you say that eight drams would not? *A.*—I should think it would not.

Q.—How many drams would it take to overcome the pituitrin action?

THE COURT:—You mean of Wine of Cardui?

Mr. Hough:—Yes, sir.

The Witness:—Of Cardui, to relax the pituitrin?

Mr. Hough: *Q.*—Yes.

A.—You are asking for my opinion?

Q.—Yes, if you can base it on anything that you know about it. *A.*—I don't believe that all the Wine of Cardui in the world would relax a uterus hardened with pituitrin.

Q.—Not even the alcohol that was in it would do it? *A.*—No, sir; I don't believe so.

Q.—But you have never experimented? *A.*—No, I have not experimented any more than I told you.

Q.—Well now then, what was the next step in that case? *A.*—I operated on her.

Q.—Before you commenced to operate how long did you wait to observe these effects of the Cardui, the second time particularly? *A.*—I watched the effect of the Wine of Cardui on the pituitrin about two minutes.

Q.—Did you expect it to act in that time? *A.*—Did I expect it to act in that time?

Q.—In that time, in two minutes? *A.*—I didn't know whether it would or not. I wanted merely to test it.

Q.—But did you expect it to act in two minutes in that quantity, if it would act at all? *A.*—If it would act at all I should expect that it might act in that time.

Q.—You mean to say then that a drug which would have that effect would either act in two minutes, or not at all? *A.*—No, I wouldn't say that.

Q.—Well, then, you didn't expect it to act in the two minutes? Your mind was firm on that point, wasn't it? *A.*—I felt that I had injected a very big dose of Wine of Cardui, and that if it had any action of that kind it would act within a short time.

Q.—But at any rate you were satisfied that it didn't act within two minutes? *A.*—Oh, yes.

Q.—Well now, then, what did you do next? *A.*—But, Mr. Hough, allow me to state that I had that uterus under observation for a longer period, during the course of my operation, and that there was no change along after ten minutes, I should say fifteen minutes or twenty minutes, there was no change.

Q.—Well, wasn't your attention directed to something else that you were doing? *A.*—Oh, yes, but I had that under my observation.

Q.—Wouldn't what you were doing in the cavity have had any effect on that? *A.*—No, sir, because the womb and the ovaries and tubes were under my observation all the time.

Q.—Well, what did you do next? *A.*—I proceeded to remove the tubes, the pus tubes, the diseased ovaries, clean away the adhesions.

Q.—And you mean you took out the ovaries also? *A.*—Oh, yes; they were badly infected and diseased, with the uterus.

Q.—And you took that out? *A.*—I may say that this was a gonorrheal case.

Q.—And you took out the ovaries? *A.*—I took out the ovaries, the diseased ovaries.

Q.—And the fallopian tubes? *A.*—And the fallopian tubes.

Q.—And the uterus? *A.*—And the uterus.

Q.—Well, you say "diseased." You took it all. Was there any part that was not diseased? *A.*—Not a part.

Q.—And you took out everything; down to where? The cervix? *A.*—To the vagina.

Q.—To the vagina. And how is the patient doing? *A.*—First rate.

Q.—She is still in bed? *A.*—Yes, sir.

Q.—Do you think she will get well? *A.*—I do.

SURGICAL OR MEDICAL TREATMENT

Q.—What percentage of cases in which that kind of an operation is performed fail to get well?

Mr. T. J. Scofield:—I object to the question, if the Court please.

THE COURT:—Objection sustained.

Mr. Hough:—Does your Honor rule that I cannot ask the witness what percentage of his patients are cured by surgical treatment?

THE COURT:—Surgical treatment?

Mr. Hough:—Yes.

THE COURT:—That has nothing to do with the issues in this case.

Mr. Hough:—Well, if they insist that surgical treatment is the reliable thing, and the medical treatment is not—

THE COURT:—No, they are not insisting that at all, as I understand it. Perhaps I have been misled as to the real issues here. I had supposed that we were confined to learning the virtues or the worthlessness of Wine of Cardui.

Mr. Hough:—That is what I thought in the beginning.

THE COURT:—And we were not discussing any other drug, or any other method of treatment.

Mr. Hough:—But counsel for the defendants have gone far afield from that question, and have put witnesses on to show that certain cases must be treated surgically.

THE COURT:—They have testified that certain difficulties cannot be relieved by medicine.

Mr. Hough:—Now then, they seek to draw the inference that if medicine is given in any case and does not cure, it is fraudulent, but if surgery doesn't cure in every case it is all right.

THE COURT:—Yes, but the difficulty is that the defense is not here to show the virtues or worthlessness of surgery. They have been charged here with promulgating a certain article which acts against this Wine of Cardui. They have said it was worthless for the things that it was advertised to cure or help. Now whether or not surgery is successful in the majority of cases, or half the cases, or only a small percentage of the cases, is unimportant.

Mr. Hough:—Well, that shows the inapplicability of this kind of testimony, which we have been objecting to from the

start. What difference does it make that they have got some cases which require a surgical operation, when in our literature we say that we do not advertise it for any case which requires surgical operation.

Mr. T. J. Scofield:—I object to this statement which the gentleman makes in the presence of the jury. Their literature says that it would cure most cases of fallen womb.

The Court:—I think there are exhibits here which would show it both ways.

Mr. Hough:—Except that we have made the point that the literature which they read on that subject was extracts, and not the entire literature, which should be considered together, and they have been permitted to ask questions on that theory.

Mr. T. J. Scofield:—It has all been read to the jury, the whole of it. There is no doubt about what you say in your advertisement.

Mr. Hough:—What was the last question?

The Court:—The last question was: What percentage of cases of that kind—in what percentage the operation was successful. The objection was sustained.

To which ruling of the Court the plaintiffs, etc., excepted.

An adjournment was taken until 10:30 a. m., April 13, 1916.

April 13, 1916, Morning

The Court met pursuant to adjournment, and Dr. John Clarence Webster resumed the stand.

FURTHER CROSS-EXAMINATION BY MR. HOUGH

Q.—Now, Doctor, take your third case. *A.*—Mr. Hough, may I specify this case and may I say to you that I have spoken to this patient? You asked me yesterday if I would tell her what I had done. I have told her this morning what I have done, the use of the Wine of Cardui, the operation. I asked her if she would come into the court if necessary; if she would give a deposition, and I also asked her if she would be good enough to see you if you would come up to the hospital at any time. I will give you her name. She says, "God bless you, Doctor, I will." Mrs. Mary W—— is her name, if you wish it and she lives in Chicago. Her age is 37.

Q.—The age of the third woman was 22 years. *A.*—I think we probably got mixed up a little bit in regard to her, Mr. Hough. 22 is the other one.

Mr. Hough:—I suggest that the statement of the witness should be stricken out that he made when I said "take your third case."

The Court:—Yes, that may go out of the record and it stands that he gave the name to you with her consent.

To which ruling of the Court the defendants, etc., excepted.

Dr. Webster was then cross-examined specifically concerning his third case, the woman 22 years of age. This patient complained of menorrhagia, headaches, dysmenorrhea, leukorrhea and frequent urination. She had been operated on one year previously by another physician but had not been helped. She had been suffering three or four years previous to the first operation. This operation consisted of shortening of the round ligaments and removal of the appendix. Dr. Webster described the findings on his own examination and stated that the patient did not say that she was worse and was certainly no better following the first operation.

Q.—Does that particular operation have a name that you know of? *A.*—Yes, sir.

Q.—What is the name of it? *A.*—The Webster round ligament operation.

Q.—Is that named after you? *A.*—It is.

Q.—Do you regard that operation as the proper operation in such conditions? *A.*—I do, but not all the conditions. What conditions do you mean? You must specify. Do you mean in her case, or generally?

Q.—Well, we will take both; first in her case, and then generally. *A.*—From what I know of her case, from opening the abdomen, I should say, no; it was not sufficient, would not be sufficient.

Q.—Well now then, generally? *A.*—In general I consider that that is a very valuable operation in displacement cases.

Q.—In what majority of the displacement cases? *A.*—The great majority of displacement cases, not associated with prolapsus as well as the backward displacement.

Q.—Do you mean it would not be a good thing in prolapsus cases? *A.*—I do not do it alone in prolapsus cases, I use a combination method with it.

He then testified as to what he learned from his physical examination of the patient, namely that the uterus was retroflexed and somewhat enlarged and that the adnexa were tender and enlarged.

Q.—Now then, when you opened the abdomen, did you learn anything about the condition which you did not know from either her history of the case, or from the physical examination? *A.*—Yes, Mr. Hough, I did and very instructive it was. I learned why the operation had been a failure.

Q.—I mean, with reference to the condition? *A.*—The round ligaments were very thin and the broad ligaments were very, very thin and lax and the round ligaments had become stretched after the operation. They are not sufficient.

Q.—What caused them to stretch after the operation? *A.*—Because the broad ligaments, these broad bands which hold the uterus, which I described yesterday, were lax and weak. Probably she was born that way, and the condition was aggravated by the girl's work. They were not sufficient to hold the uterus up, and it was for that reason that I stated that, if I had been operating on such a case I would have done more than shorten the round ligaments.

Q.—You mean at the first operation? *A.*—Yes, if I had been operating then.

Q.—What additional would you have done at the first operation? *A.*—Well, of course, not having seen her condition at the—

Q.—But you just stated you would have done more. What would you have done? *A.*—Assuming that her ligaments were the same as I found them—

Q.—That is a fair assumption that they were, is it not? *A.*—Yes, indeed, I think it is a fair presumption. I would have shortened the utero-sacral ligaments, that is, a procedure that I carry out in such cases. Those are the ligaments that are down behind the neck of the womb, and which tend to pull it upwards and backwards towards the spine. I would have used that, most emphatically, in such a case along with the shortening of the round ligaments.

Q.—Would you have done anything else? *A.*—Yes, I might have done something else; I cannot say. With regard to the condition of the tubes and ovaries I might have done something to them, and being a young woman, I would have done or tried to do something conservative.

Q.—What would you call something conservative? *A.*—Any young woman—

Q.—In this particular case? *A.*—I would have tried to destroy the diseased portion of the ovaries and leave a healthy portion to functionate.

Q.—As far as you know, or from the facts you learned though, nothing was done at all. *A.*—No, as far as I know. I have talked with the doctor, but I suppose what he said would not go, would not be evidence.

Q.—I mean, so far as any appearance of the interior of the cavity is concerned, nothing was done, they were left untouched? *A.*—There was no evidence of any operation on the ovaries or tubes.

Q.—Or any treatment of any kind? *A.*—No, sir.

Q.—Now, when you opened up the cavity, you say you discovered a retroflex condition of the uterus? *A.*—And somewhat prolapsed.

Q.—And somewhat prolapsed? *A.*—Yes, sir.

Q.—What else did you discover? *A.*—I discovered that the tubes were thickened.

Q.—You mean the fallopian tubes? *A.*—The fallopian tubes were thickened from infection, chronic inflammation, and the ovaries enlarged and very extensively degenerated.

Q.—What did you do? *A.*—Then I carried out the experiments with Wine of Cardui.

The witness described his experiment. He injected 6 drams of Wine of Cardui into the buttock hypodermically and he observed no change in the uterus or in the ligaments. He then injected 3 drams of Wine of Cardui into the wall of the uterus and the base of the round ligaments and observed no change of any kind. He introduced 3 drams into the broad ligaments, 1½ drams on each side.

Q.—Now then, what next did you do? *A.*—Then I decided on the operation that was necessary in this case and, from the extent of the disease, I decided that it was necessary to remove, extirpate those diseased genital organs and the first thing I did was to remove and tie off the vessels in the broad ligaments, supplying the tubes and ovaries. I did that on both sides. That took me perhaps ten minutes. In all this time there was no change in the appearance of the parts. Then I injected—

Q.—You are positive nothing whatever; no change whatever? *A.*—Not that I could observe, Mr. Hough.

Q.—Not that was visible to the naked eye? *A.*—Not that was visible to the naked eye. Then I introduced 15 minims of pituitrin, or one c.c. of pituitrin that I showed yesterday, into the wall of the uterus.

Q.—After you separated the broad ligaments? *A.*—After I had separated the ovaries and the tube.

Q.—Didn't you state yesterday that you only used pituitrin on the first two? *A.*—Not that I recall, no sir. Oh, no. If I did, I was wrong.

Q.—If you did, you were wrong, but you are not sure that you did? *A.*—Oh, yes, my notes were made then. In 30 seconds the uterus began to harden and contract. Then I proceeded to the removal of the upper portion of the uterus as far down as the neck of the womb and then sewed very firmly the ligaments, the round ligaments to that neck and then closed the abdomen.

Q.—You did not take out the tubes or the ovaries? *A.*—Oh, yes. I said so. I took those out with the upper part of the womb.

Q.—You took out the ovaries and took the tubes and took out practically all of the uterus? *A.*—Except the neck of the womb.

Q.—Did you leave anything for her to bear a child with? *A.*—No, sir.

Q.—She was completely denatured? *A.*—That was all explained to her as a possibility beforehand.

Q.—And if this first operation had been performed correctly, she might not have been all denatured, she might have been a well woman? *A.*—No, sir; I would not like to say that.

Q.—You would not say she might have been? *A.*—Might have been? I cannot say.

Q.—Where did you get this Cardui? *A.*—Bought it in Buck & Rayner's.

Q.—Did you buy a fresh bottle for each experiment? *A.*—No, sir.

Q.—Used the same bottle? *A.*—The same bottle.

Q.—And each experiment was on different days? *A.*—Yes, sir.

Q.—You knew that it was medicine that was recommended to be given by the mouth? *A.*—Yes, sir.

Q.—And you did not expect any effects and you did not see any effects? *A.*—That is right.

Q.—Suppose you had given pituitrin by the mouth. Would it have had any effect on the womb? *A.*—Pituitrin by the mouth? I have never given pituitrin by the mouth.

Q.—You know it would not have any effect on the womb, don't you? *A.*—I believe it would not.

Q.—It would not. Yes. Don't you know, Doctor, that if you inject into the walls of the uterus three tablespoonsful of liquid it will make a great big bump on that uterus? *A.*—Three tablespoonsful?

Q.—Three teaspoonsful? *A.*—It did not when I injected it, sir. I injected it very slowly.

Q.—Well, but if it stayed in there, it is bound to make a lump, isn't it? *A.*—It diffuses in the tissues.

Q.—Well, how much liquid could the patient absorb or the tissues absorb without any change in the outward appearance as to size? *A.*—I don't know, I never tested that.

Q.—Then how can you say that you know that three teaspoonsful will not make a lump or increase the size of the uterus? *A.*—I am only saying that I did not make a lump.

Q.—You are positive of that? *A.*—Yes.

Q.—Did you ever see a liquid injected into a uterus before? *A.*—I have injected it many times, Mr. Hough.

Q.—Did it ever at any time you have injected it, make a lump or show in the uterus? *A.*—It depends on how you inject it. If you inject it superficially, under the peritoneal covering—

Q.—I say, did it at any time show externally? *A.*—Yes.

Q.—It has? *A.*—Yes, I have injected it superficially under the peritoneum, not going deep enough, then it will make an elevation, of course.

Q.—Then, if it goes in deep enough, how do you know that it don't go into the cavity of the womb, and pass off? *A.*—Because it was passed into the muscularis, not into the uterine cavity. The wall of the uterus is half an inch to three quarters of an inch in thickness.

Q.—How thick is the broad ligament? *A.*—The broad ligament at the upper portion—

Q.—No, where you injected? *A.*—Where I injected it?

Q.—Yes? *A.*—About three quarters of an inch; the broad ligament is an inch at the starting, and then goes out to about an inch or three quarters of an inch where I injected it. The broad ligament is very lax.

Q.—How far away from the uterus was it? *A.*—Close to the uterus.

Q.—And you think it was three quarters of an inch thick there? *A.*—Yes; the broad ligament is very lax tissue. It would be very difficult to make a lump in it, it is so loose.

Q.—How rapidly does an injection of the character you used diffuse itself through the tissues where you injected this? *A.*—I believe very rapidly, right in, immediately—within a minute I think it diffuses right through the tissues.

Q.—And you have never made an injection of this character which showed on the outside of the uterus, that is, by a lump? *A.*—I said that I had made injections in the wall of the uterus. I use this work a great deal in doing cesarean section by the abdomen; in doing that I always use pituitrin, injecting it into the uterus before the cesarean section, that is to say, before I cut the uterus, in order to diminish the hemorrhagic tendency, and I say that if I inject I have injected it too superficially, right in the thin layer, then I would get a lump just as one would under the skin.

Q.—But I asked you when you injected it as you injected it in this case? *A.*—No, I have never seen a lump injecting it deeply. I was surprised there was no lump.

Q.—You mean you expected to see a lump and there was none? *A.*—I would expect to find a lump, injecting that quantity, yes, but there was no lump.

Q.—How do you account for that? *A.*—Rapid diffusion.

Q.—Why should this diffuse more rapidly than any other liquid? *A.*—Presume it is because of the alcohol. It contains alcohol, the solution, and alcohol is a very rapid diffusing liquid in the body.

Q.—This comes in contact with the living tissue when you inject it that way, does it not? *A.*—Yes, sir.

Q.—And the effect of alcohol is to coagulate the protoplasm of the blood, isn't it? It coagulates the protoplasm of the blood? *A.*—I have never—I do not know. I have never had any effect from the injection of alcohol into the body, of that character.

Q.—It is not well known that it does have that effect when brought in contact with living tissues? *A.*—It is not well known, to me,. sir. I have used it many times.

Questions were then asked as to the effects of alcohol under ether anesthesia.

Q.—Would you say it would have a different effect when under the anesthetic, than when not under the anesthetic, injected in that way? *A.*—Its general effects, the effects on the circulation would be, of course, merged. They would be infinitesimal as compared with the effects of the ether. Now, as regards any local theoretical effect, I presume it would be the same in both conditions.

Q.—The effect of injecting the alcohol in that way, is more direct and more pronounced by giving it through the stomach. Is it not? *A.*—Through the mouth?

Q.—Yes, through the mouth? *A.*—Yes, sir, and that is the same way I gave the Wine of Cardui, directly. I thought—

Q.—You thought what? *A.*—I thought that if Wine of Cardui had an action on the uterus that I would see it by the direct use of it.

Q.—But that rule don't apply to all ingredients. There are some ingredients which act by the mouth, and do not act by injection, and some ingredients which act by injection and do not act by the mouth. Isn't that a fact? Like pituitrin? Pituitrin don't act by the mouth, does it? *A.*—No, it acts locally, though, on the uterus.

Q.—It don't act when taken by the mouth? *A.*—I have never used it by the mouth.

Q.—There is a difference therefore, between the action of alcohol in both respects, and certain other substances, isn't there? *A.*—I don't know. I am not a pharmacologist and I cannot speak on points of that character.

Q.—Your reading don't tell you anything on that subject? *A.*—I know, for instance, that a drug like digitalis, if given by the mouth, takes a long time to act; but if given under the skin, as we have to use it sometimes in cases of heart failure, it acts very quickly and immediately. If we had to wait for the mouth action it would not be satisfactory in emergency cases.

Q.—I don't think that is quite an answer, doctor, to my question. I say there is a difference in the action between the alcohol and certain other substances. In other words, there are some things which act—I am not asking about whether they act more rapidly or not—there are some things that act when injected, which do not act at all when taken through the mouth, like pituitrin. *A.*—I am not competent to speak about that point, Mr. Hough. That is a matter for pharmacological experience and test.

Q.—But I am asking as to your knowledge. Do you have any knowledge on that subject at all? *A.*—My knowledge is based upon my direct use of the drug.

Q.—Don't you ever form any opinion on anything that you ever read? *A.*—I get ideas from reading, suggestions.

Q.—Have you gotten any such ideas from anything that you have ever read?

Mr. T. J. Scofield:—That is objected to.

THE COURT:—I think this question has been answered a long time ago, because he told you that he never had given pituitrin by the mouth and that in his opinion, it would not operate when given by the mouth.

The Witness:—Yes, sir.

THE COURT:—He has told us it did operate when injected directly into the muscle. Now that answers your question, "Doctor, do you know of anything that will operate when directly injected into the muscle, and will not operate when given by mouth?" That has been answered.

Mr. Hough:—But I was asking whether there was any other substance—

THE COURT:—You may ask him whether he knows of any other substance.

Mr. Hough:—I asked him, and he said that he is not a pharmacologist. Then I said—or asked him if he did not know from his reading that there are such other substances. It is not necessary for him to have used it.

Q.—Have you any opinion on that subject?

Mr. T. J. Scofield:—He has answered that.

THE COURT:—You may go ahead.

To which ruling of the Court the defendants, etc., excepted.

A.—I answered by quoting what I knew of digitalis, Mr. Hough.

Mr. Hough: Q.—But that was something that acted slowly, instead of not acting at all? *A.*—Yes.

Q.—I asked you, in reference to ingredients which did not act at all, when taken by mouth, like pituitrin? *A.*—You want to know something that does not act by the mouth?

Q.—Whether you know of other substances of that character? *A.*—That does not act by the mouth, but that will act locally?

Q.—Yes.

THE COURT:—Or vice versa.

A.—Yes, sir; adrenalin on the uterus will not act when given by the mouth.

Mr. Hough: Q.—What is the dose of adrenalin, the minimum dose we will say? *A.*—Well, adrenalin I use in a solution of one in one thousand.

Q.—You mean one one thousandth part of a grain? *A.*—Yes, sir, a solution of one in a thousand, and if ten or fifteen or twenty drops of that be given by the mouth, there is no effect on the uterus.

Q.—And when injected there is an effect? *A.*—In the uterus there is an effect, yes.

Q.—In other words, all drugs and all substances don't act the same, I mean, taken by the mouth, or by injection? There is a variation in their action, isn't there? *A.*—There are variations, yes, sir, of course, at times.

The witness was then asked concerning the date of this operation and also his operation on the next case.

DR. BILLINGS' CASE

The Witness:—This case was a patient of Dr. Billings in the Presbyterian Hospital.

Mr. Hough: Q.—How long had she been a patient of Dr. Billings? *A.*—I cannot tell you that. She has been in the hospital for some time. She has been—he called me in consultation, stating that she had a very serious condition of multiple neuritis. She had been suffering for four years and had found no relief, and had come to him in the hospital for his attention. After he had examined her thoroughly, he discovered that she had pelvic disease.

Q.—You mean pelvic inflammation? *A.*—Yes, sir—infection. As Dr. Billings is one of the great authorities on that subject—

Q.—Oh, are there authorities, medical authorities? *A.*—Dr. Billings has been doing very important work with regard to the influence of infection in the body in the production of joint disease and chronic inflammations and so on.

Mr. Hough: *Q.*—You would class him as a medical authority? *A.*—In that subject.

Q.—Are there any other medical authorities?

THE COURT:—Do you mean in the literature, or individuals?

Mr. Hough:—In literature and individuals.

THE COURT:—Because I didn't understand the witness to say that Dr. Billings had written about all these things, or that he had reference to some book that Dr. Billings had written.

Mr. Hough: *Q.*—Has Dr. Billings written about anything?

The Witness: *A.*—He has written articles in the journals.

Q.—Never written a book? *A.*—I don't think he has.

Q.—Then when you use the word "authority" you do not refer to any man who ever wrote a book? *A.*—I am referring in this connection to Dr. Billings, who is a colleague of mine in the Presbyterian Hospital, and whose work I have known for many years.

Q.—Are there any medical authorities who have written a book?

Mr. T. J. Scofield:—I object to the question, if the Court please.

THE COURT:—Oh, I think we are getting away here, because, we do not know the definition of "authority." You take two lawyers, and you ask one if he recognizes the other as an authority; well, it depends altogether upon a given question coming up, whether the man who is asked this question would then say he regarded him as an authority upon that, or would agree with him.

Mr. Hough:—I want to get the witness' definition of an authority. We know that our law reports use the expression "medical authorities." I don't know whether the courts know what they meant when they used the expression, but that is an expression in common use.

THE COURT:—We all know the connection in which those phrases come into the law work.

Mr. Hough: *Q.*—Now, what is your understanding—just to digress a second—of the term "medical authority"?

Mr. T. J. Scofield:—I object to the question, if the Court please.

THE COURT:—The objection is sustained here upon this branch of the cross-examination.

Mr. Hough: *Q.*—And you say in most—

THE COURT:—He says he regarded Dr. Billings, his colleague, as an authority upon this kind of work.

Mr. Hough:—Now then, are we not entitled to know what his meaning of the word "authority" is?

THE COURT:—Yes, in that connection.

Mr. Hough: *Q.*—What is your meaning of the word "authority," when you use it in connection with medicine?

Mr. T. J. Scofield:—That, if the Court please, I object to.

THE COURT:—In connection with Dr. Billings.

Mr. T. J. Scofield:—Because he has already answered that. In connection with Dr. Billings, and his work there. He explained what he meant by it. He explained that already.

THE COURT:—You may answer, Doctor.

To which ruling of the Court the defendants, etc., excepted.

The Witness: *A.*—I regard Dr. Frank Billings—

Mr. Hough:—I don't like that form of reply, if the Court please. I ask him what is his meaning of the word "authority." Now, I don't want a lecture on Dr. Billings.

THE COURT:—You have asked him practically the meaning of the word "authority" as it was used by the witness in connection with Dr. Billings.

Mr. Hough:—Does your Honor hold that I am not entitled to ask the witness what he would mean by the term "medical authority"?

THE COURT:—You may ask him that.

Mr. Hough: *Q.*—What is your understanding of the word "medical authority"?

Mr. T. J. Scofield:—I object to that question as not cross-examination.

THE COURT:—He may answer.

Mr. T. J. Scofield:—And as being immaterial.

THE COURT:—Overruled.

To which ruling of the Court the defendants, etc., excepted.

The Witness: *A.*—As far as a human being can be an authority on anything, I would regard a man who had worked at a particular subject in a scientific manner over a period of time, and who had more experience in that subject than other people, or most other people, as the best human authority that could be found.

Mr. Hough: *Q.*—Would it make any difference whether the man had written a book or not?

Mr. T. J. Scofield:—That I object to, if the Court please.

THE COURT:—He may answer.

To which ruling of the Court the defendants, etc., excepted.

The Witness: *A.*—Would it make any difference—why, no.

Mr. Hough: *Q.*—Well, I mean, is he more or less of an authority if he has written a book on the subject that he thinks he is familiar with? *A.*—Often less in the eyes of the world, Mr. Hough.

Q.—Would you regard Bandler as an authority on the subject that he has written on: Gynecology?

Argument was then made by the attorneys for the defendants before the Court on the introduction of matter read from books, Mr. Hough reading a decision from the 89th Illinois, 516: The Connecticut Mutual Life Insurance Company vs. Ellis, and Mr. Scofield calling to the Court's attention the 265th Illinois: Ullrich vs. the Chicago City Railway Company.

Mr. Hough stated that in the Ullrich case, the decision was reversed because the counsel brought into the presence of the jury a large number of medical books and started to read from the books without first laying the foundation.

The Court stated that that foundation was not yet laid in the present case.

Mr. Hough:—I said I would try to approach it in a different way. I thought I had the foundation, and I still think I am within the rule, but if the Court thinks otherwise, I will approach it in a different way. I do not want to abuse the right, but I think I have got the right to get from the witness the foundations for this opinion, and I can go down as low as I please to get the foundation; that is my opinion. The foundations are always low down anyhow.

Q.—Had you concluded your definition of a medical authority?

Mr. Walker:—He had finished.

The Witness:—I think so, Mr. Hough.

Mr. Hough: *Q.*—And I believe you said that it was usually worse if he wrote a book; something to that effect?

The Witness: *A.*—No, I didn't say that. I said it might be often.

Mr. T. J. Scofield:—Well, what he said is in the record.

Mr. Walker:—Yes.

Mr. Hough:—What is in the record? At any rate, it was a digression, and we will go back.

THE COURT:—This was all started because of a reference to Dr. Billings.

Mr. Hough:—Yes, he used the word "authority," and he used it for the first time, and I thought they had tabooed that word.

The Witness:—In that subject, I mean.

Mr. Hough:—Of course that alarmed me.

Q.—Now this patient had been under Dr. Billings' care for how long? *A.*—I don't recall, Mr. Hough. She had been in the hospital for some time.

Dr. Webster then described what he learned from the history and from physical examination of this case. He found the uterus retroflexed with enlarged tender masses on each side fixed by adhesion, and there was marked tenderness. He reported that to Dr. Billings.

Q.—Had Dr. Billings made a similar examination to the one that you had? I mean an examination of similar character? *A.*—Yes, sir.

Q.—And had he found the same thing? *A.*—Well, he found trouble there, but he wasn't certain of the condition. He is not a gynecologist, and that is why he asked me to examine her, but he found evidence of pelvic trouble, from his examination.

Q.—What particular point was he referring to you? *A.*—Well, I will tell you that, Mr. Hough. There are a number of conditions in the body, such as chronic joint troubles, arthritis, so-called rheumatism, chronic inflammations to nerves, such as of the sciatic nerve, for instance or any other nerve in the body, which are due to infections, that are not primarily in connection with those tissues. Thus, for instance, last summer I had an acute attack of swelling of my knee joints—

Q.—Not in your own knee that you are talking about? *A.*—My own knee. And my wrist joints were also slightly affected, and I naturally began to look for a cause, and a short time previously I had had a sore throat, and knowing that tonsillar infections are a cause of distant infections in the body, I went to a throat specialist who found pus in my tonsils. I went to the hospital and had them out, and in the course of a few days my joints began to improve, and all trouble has gone. In this case, Dr. Billings suspected that the cause of this woman's neuritis of inflammation of nerves, was some infection, and he had had her examined in every part of the body, but could find nothing except trouble in her pelvis and hence he sent her to me. Then when I told him what I had found he agreed that that was the probable cause of her troubles. And asked me to operate on her.

Q.—Oh, he referred her to you for an operation, not for a diagnosis, then? *A.*—Yes, first for a diagnosis.

Q.—That is, confirmatory diagnosis, and an operation? *A.*—If I thought it advisable.

Q.—And you confirmed it and operated? *A.*—Yes.

Q.—What is the date of this operation? *A.*—That was done on Monday.

Q.—Monday of this week? *A.*—Monday of this week.

Q.—You had in mind at that time evidence in this case, didn't you, when you made these different operations? *A.*—I beg your pardon?

Q.—You had in mind evidence of this case? Evidence in this case? I say, you knew you were going to testify in the case? *A.*—Oh, yes; oh, yes.

Q.—And you had been working on the case, and you had in mind evidence in this case when you operated on these women? A.—Yes, sir.

Q.—Now, had you and Dr. Billings talked about this case? A.—No, sir, never.

Q.—Do you know whether Dr. Billings is interested in the case? A.—I think every doctor is interested in this case, Mr. Hough.

Q.—Do you mean the doctors are all standing together on the proposition? A.—I don't know about any standing together. I think they are all interested in the case.

Q.—But you are sure he has no more interest in the case than any other doctor? A.—Well, I can't answer that. I haven't discussed this case with him.

Q.—Never even mentioned it? A.—Not that I remember.

Q.—Was Dr. Billings present when you tried Cardui on any of the women? A.—No, sir.

Q.—Did you tell Dr. Billings that you had tried Cardui on any of the women that you had tried it on previous to this woman? A.—No, sir.

Q.—Did you ever tell Dr. Billings that you had tried Cardui on the woman? A.—No, sir.

Q.—Did anybody else ever tell him? A.—Not that I know of. I don't know that.

Q.—I mean you didn't inform him directly or indirectly? A.—No, sir, I took no pains to inform him directly or indirectly.

Q.—Well, now, at what stage did you make a test with Cardui? A.—The procedure that I followed out in that patient was practically the same as in the last case, except that I did not use the injections into the buttocks, Mr. Hough.

In this case Dr. Webster removed the entire uterus. He stitched the round ligaments and sides of the broad ligaments that had been cut away from the uterus, together, and into the top of the vagina, in order to hold it up securely. After the operation the patient was given heroin hypodermically and some treatment to prevent pain from gas formation in the intestines.

Dr. Webster was asked concerning the use of tonics after an operation and he stated that iron is sometimes used when patients are anemic. He was asked whether or not tonics contracted the muscles and also as to the mode of action of tonics.

Q.—You have given Hayden's Viburnum Compound, haven't you, in that hospital? A.—No, sir, never.

Q.—You never gave viburnum at all since you came to this hospital? A.—I gave up the use of viburnum—

Q.—Yes, I know you said you gave up the use of viburnum in Scotland in '96. I am asking you now whether you haven't used it out here in this hospital? A.—No, sir. Excuse me, I said that I gave up the use of the fluidextract of viburnum after the year '96, and then I worked with the solid extract of viburnum. I used that—

Q.—That was in Scotland? A.—In Scotland—in Montreal, where I was for two and a half years, before I came here.

Q.—And you thought it was no good, and you abandoned it entirely? A.—Yes, I abandoned it, yes, gradually abandoned it after I came here.

Q.—But you continued to use it after you went to this hospital in liquid form? From 1900 to 1903? A.—I may have used it, but gradually gave it up.

Q.—Oh, I know you gradually gave it up, but you used it? A.—I don't recall whether I used the fluidextract in this country or not, Mr. Hough. I may have used it.

Q.—Or would you say you do not know whether you used the fluidextract, or the tincture? A.—I never used the tincture at all.

Q.—Never used any tinctures? A.—Oh, I think so. I haven't used the tincture, because the fluidextract was the drug at that time.

Q.—Well now then, what other tonic did you give any of these four women besides iron? A.—I have not ordered any tonics for these women, Mr. Hough.

Q.—You mean the time has not come to give them a tonic? A.—No.

Q.—Well, when the time comes to give them a tonic, what tonic do you usually give in this class of cases? A.—That would depend on their condition. If they are anemic I shall give them iron, and that is all, as far as I know of.

A recess was taken until 2 o'clock p. m., April 13, 1916.

April 13, Afternoon

The Court met pursuant to recess. Dr. John Clarence Webster resumed the stand.

FURTHER CROSS-EXAMINATION BY MR. HOUGH

Q.—Doctor, you said that it depended on what the condition was, what kind of tonic was used. As I understood you to say, if they were anemic you would use iron? A.—Iron.

Q.—What other kinds of medicinal tonics would you use for other conditions, or for the same conditions? A.—I might use a tonic like strychnin. I might use arsenic.

Q.—Any vegetable tonics? A.—I have not used a vegetable tonic, as far as I can recall, for a long time, Mr. Hough.

Q.—For a long time? For how long? A.—A few years, several years. I couldn't say.

Q.—A few years. Well, when you were using vegetable tonics which ones did you use? A.—I used quassia, for example, quassia, and quinin sometimes.

Q.—The jury cannot hear you, doctor. A.—Quinin; quassia; quinin and iron, a combination. I may have used others.

Q.—Would those, all that you have named, be in liquid? A.—Not necessarily.

Q.—No, not necessarily, but would they? A.—The quinin and iron—the quinin usually in capsule, powdered form. Hydrobromate of quinin was the important one I used.

Q.—How many of them did you use that were in liquid form? A.—Usually I suppose the quassia only in liquid form.

Q.—Quinin and iron came frequently in liquid form? A.—Citrate of quinin and iron might be in liquid form. The iron I usually used in pills, solid form.

Q.—Those medicines in liquid form would contain how much alcohol, do you recall? A.—No, I do not recall.

Q.—Quassia, for instance? A.—I do not recall at all, Mr. Hough.

Q.—Do you recall that it was over 20 per cent. of alcohol? A.—I do not recall the amount of alcohol in quassia infusion.

Q.—When the other vegetable tonics contained alcohol, do you recall the amount of alcohol that was in any of them? A.—No, I do not.

THE COURT:—Let me ask this, Doctor: When you prescribe the quassia, what does that mean? Is that some standard medicine that is shown in the pharmacopeia? A.—Well, infusion of quassia.

THE COURT:—I mean, who determines what percentage of alcohol was in it? Was that known to the druggist or the pharmacist? A.—That is known to the pharmacist who makes it up. It is a regular preparation that was used.

Mr. Hough: Q.—It comes in a bottle form, doesn't it? A.—Yes, sir.

Q.—You can go in a drug store and buy it? A.—Yes, sir.

Q.—But you don't recall how much alcohol there was in it? A.—No, I do not.

Q.—You regarded whatever amount of alcohol there was in it as negligible, did you not? A.—I did not take into consideration the alcohol that was in the preparation.

Q.—Well, you regarded it as negligible? A.—Yes, yes.

Q.—You certainly did not think it would have any bad effect? A.—No, not when I used it.

Q.—When you use the quinin and iron in the liquid form, you did not consider the alcohol that was in it as deleterious? A.—No, sir.

Q.—But you do not know how much alcohol. Have you ever given iron in liquid form? A.—Yes. Not in recent years.

Q.—Well, don't you use Hemabolqids now? A.—No, sir.

Q.—That is a liquid form of iron, isn't it? A.—I don't use Hemaboloids in any form.

Q.—Don't they use it in hospitals generally? A.—I don't know.

Q.—You don't know anything about it? A.—No, sir, I don't know.

Q.—You didn't tell the jury just what quassia was, did you? A.—Quassia is a bitter, as far as I can remember; just a bitter substance.

Q.—You don't know what it is made of? A.—No, I don't.

The witness then described the last case—a woman four months pregnant. She came to the Presbyterian Hospital complaining of bleeding from the womb, stating that she had a pregnancy outside of the womb. She stated that she had menstruated last on Christmas Day and that in February there was a discharge of blood which lasted about two weeks. The bleeding started again two weeks previous to her entrance to the hospital on Saturday, April 8. A physical examination by the manual method led him to conclude that she had not a pregnancy outside the womb and that she did not require an abdominal operation. He decided that the pregnancy was in the womb and it was a case of threatened abortion. The patient complained of pains in the pelvis and in the back, intermittent in character. He ordered her to be placed in bed and told his assistant to give her Wine of Cardui by mouth in tablespoon doses. The patient knew she was receiving Wine of Cardui as she heard Dr. Webster give the instructions to his assistant.

Q.—She heard you tell the assistant to give her Wine of Cardui? Did she know anything about Wine of Cardui? A.—I didn't discuss it with her. I don't know whether she did or not, Mr. Hough.

Dr. Webster then described his treatment of this case.

Q.—You say the woman knew she was taking Wine of Cardui? Did she know that she was being experimented on by Wine of Cardui, or did she think she was getting it in good faith? A.—Why, Mr. Hough—

THE COURT:—Is that important? Is it claimed that this medicine has one effect on one who takes it in good faith, and a different effect on one who thinks she is being experimented on?

Mr. Hough:—No.

THE COURT:—Well then, I don't think that this question is important.

Mr. Hough:—The witness made the statement which called for it, I think, that she knew she was taking Wine of Cardui.

THE COURT:—Well, you asked what this woman thought about it. Now what difference does it make whether she took it in good faith, or whether she took it with malice aforethought, so far as the effect on her system was concerned?

Mr. Hough:—Now, I will ask this witness whether he gave it in good faith?

The Witness:—Certainly I gave it in good faith, Mr. Hough.

Mr. Hough: Q.—But you believed it would not act on her when you gave it to her, didn't you? A.—I believed that, yes. I wished to try it.

Q.—Well, but you knew the literature said that it would not act that quickly, didn't you?

THE COURT:—What literature?

Mr. Hough:—The literature in relation to the medicine, that they have put in evidence.

THE COURT:—Well, we have two sets of literature in this case. One says it acts, and one says it won't. Now which set do you refer to?

Mr. Hough:—Well, the one that says it will act, says that you have to take it for some time in order to get the effect.

The Witness:—Well, Mr. Hough, ordinarily in such a case—

Mr. Hough:—And if the Court please, I would like to correct an impression I think the Court has, as to any literature saying that it will act in the class of cases these witnesses have been testifying about. I objected to Judge Scofield's questions—

THE COURT:—Oh, that has come up time and again, because a part of the literature says you must not use this in operative cases. There is other literature which makes no mention of operative cases. It is all a question of argument to the jury.

Mr. Hough:—I beg your Honor's pardon, there is no literature that don't make mention of operative cases. And I have objected to the questions which Judge Scofield asked, as not being correct quotations from the Home Treatment Book. He promised to give me those quotations, and he has not done it yet. There is not a word in the Home Treatment Book which says that it is good in place of an operation.

THE COURT:—Well, I have read the whole of the Home Treatment Book, the two of them, and there is no misapprehension in my mind. Now I am not saying whether it says this or that. I am not misled, and you do not have to make any explanation from my standpoint, and your statement now was addressed to the Court to remove an apprehension. I have none, so we will go on with the examination of this witness.

Mr. T. J. Scofield:—Let me say just this, your Honor.

THE COURT:—Why, we have settled this question, Mr. Scofield.

Mr. T. J. Scofield:—I understand, but I want to say one thing, not on that subject. Mr. Hough has said here in the presence of the jury just now that he has asked me for the quotations which I used from the Wine of Cardui "Home Treatment for Women," and he said he hasn't got them yet. I want to say to the Court that that is not a fact. I did use one, just one expression, which they asked me where I found it, and I told them I would look it up, and I will, and if I do not find it I will tell your Honor about it.

THE COURT:—Let us go on with this witness.

Mr. T. J. Scofield:—But his statement that he had asked me for it, and I would not give it to him, is not true.

THE COURT:—Let us go on with Dr. Webster. He is a busy man. Let us get through with this cross-examination.

The witness stated that he had used Wine of Cardui on the supposition that it was a uterine sedative. He stated that he has prescribed medicine without physical examination of the patient—e. g., in anemia.

Q.—Are there any medicines which taken by the mouth, are ever beneficial in cases of amenorrhea? A.—In amenorrhea, which is due, for example, to anemia, to a poor condition of the blood, yes. A course of iron might, in course of time with attention to the general health, cause a return of the menstrual flow.

Q.—Would any uterine tonic have the same effect? A.—In such a case?

Q.—Yes? A.—Not that I know of.

Q.—Would any uterine sedative have the same effect in such a case? A.—In bringing back menstruation?

Q.—Yes? A.—Not that I know of.

Q.—What is the effect of a uterine tonic? A.—A uterine tonic in my—

Q.—On menstruation, I will ask? A.—A uterine tonic? A uterine tonic such as ergot tends to strengthen the contractions of the uterus and may lessen the flow in some cases.

Q.—Did you ever give medicine by the mouth for menorrhagia? A.—Frequently.

Q.—Did you ever give medicine by the mouth for metrorrhagia? A.—Frequently.

Q.—What is the effect in those two cases? A.—That is one of the commonest practices, Mr. Hough. The effect varies according to the conditions in the pelvis. In some cases it is beneficial. In other cases it is not.

Q.—What kind of medicine would you give in such case, those two cases? A.—My great standby—I don't know any medicine better by the mouth than ergot.

Q.—For both of those cases? A.—Bleeding in connection with the menstrual periods or between.

Q.—That is the fluidextract of ergot, is it not? A.—No, sir, I use—use the fluidextract of ergot, but my usual ergot preparation is the ergotin pill, from three to five grains three times a day.

Q.—Isn't it only recently that you have been abandoning the use of alcohol in medicine? A.—Oh, I had not thought of it in that connection. I have been under the impression that the pill of ergot is more apt to be stable. It has always been recognized in my practice that the fluidextract, which, of course, contains alcohol, might degenerate so that the active qualities of the ergot might not be effective, or their—

Q.—Well, isn't the ergot more apt to degenerate without alcohol than with it? A.—I cannot answer you that, but I have understood not, Mr. Hough.

Q.—Don't you know that alcohol is a preservative and is used to prevent just such action? A.—Alcohol is a preservative, but I know that in ergot preparations the medicine tends to lose its effect. I have always understand that wine—that the fluidextract was apt, standing in a hospital, or in an office or anywhere, after some weeks, to lose its effect and always was taught to try to get preparations that were as fresh as possible and, with my patients in the hospital, in using ergotin pills, to have fresh preparations as near as possible, or as much as possible.

Q.—Do you mean that it would lose the effect, because the alcohol would evaporate and become too small in amount? A.—No, no; changes in the ergot substance.

Q.—Do you think it is possible for the ergot substance to change in the amount of alcohol which is in the fluidextract? A.—Well, Mr. Hough, I have always understood that; I learned that years ago in Edinburgh.

Q.—You mean that you learned then that alcohol was not a successful preservative? A.—Of the ergot preparation.

Q.—Of the ergot preparation? A.—Yes.

Q.—How long since you have abandoned the liquid form in your practice? A.—I could not say that. For several years I have been using—certainly the last three or four years, I have been using the ergotin pill in my practice.

Q.—Now, in cases of dysmenorrhea, have you ever given medicine by the mouth? A.—I have.

Q.—What class of medicines? A.—In my earlier practice I used the viburnum, the fluidextract of viburnum, as I stated the other day. I used bromids, bromids of soda and bromid of potash. I used hyoscin, tincture.

Q.—How long since you have abandoned the use of alcoholic preparations in cases of dysmenorrhea, that is, in medicine in liquid form which contain any alcohol? A.—I should say that between—as far as I can recall, I should say somewhere about nine or ten years, somewhere thereabouts.

The witness was then asked concerning delay in menstruation in puberty; as to whether it occurred not due to pathologic causes. He stated that where there is delay without symptoms he does not give medicine. Where there is anemia or constipation medicine is given. He was asked concerning the use of tonics in connection with gonorrheal infection in addition to the use of an antiseptic douche.

Q.—Now, then, tonics are usually given in connection with that treatment of the antiseptic douche, are they not? A.—Not unless—I give no tonics unless the patient is very much run down and anemic, Mr. Hough.

Q.—Well, it is the usual practice to give tonics? A.—I am only speaking for myself in that.

Q.—Do you not know what any other doctors do? A.—I do not know what other doctors do in that respect. I really could not answer for them.

Q.—You do not know of your own knowledge, now, what any other doctor does in that kind of a case? A.—No, I could not say what any doctor in America or Europe does in such a connection, in the way of administering tonics. I have not asked them, and I have paid no attention to them. I have been working along my own lines and trying to find out what is best for myself.

Q.—Don't you know that medical literature recommends it?

Mr. T. J. Scofield:—That is objected to, if the Court please.

THE COURT:—It is a pretty comprehensive term, American literature.

Mr. Hough:—Medical literature I say.

THE COURT:—Well, medical literature. That is liable to open up everything.

Mr. Hough:—Is more comprehensive perhaps than American literature.

The Witness:—Yes.

THE COURT:—He may answer the question if he can.

To which ruling of the Court the defendants, etc., excepted.

A.—It may be, Mr. Hough, I do not know.

Mr. Hough: Q.—You do not know of any? A.—I cannot recall at this moment any medical literature referring to the use of tonics in a case of gonorrhea. It may be.

Q.—In connection, I say, with other treatment? A.—Beg pardon?

Q.—In connection with other treatment? A.—Well, I presume that tonics may be used as I have indicated I have used them. I have no doubt of it; I presume so.

Q.—Can you recall any literature which says that a tonic would be contraindicated? A.—No, I cannot.

Mr. T. J. Scofield:—I object to that question.

THE COURT:—He has answered the question, and it may stand.

To which ruling of the Court the defendants, etc., excepted.

Dr. Webster was asked questions pointing toward his definition of "cure."

He was asked questions pointing toward the definition of the word "cure;" e.g., the use of spectacles to relieve headache was mentioned.

Q.—But the thing which caused the headache has not been cured, that still exists, don't it? *A.*—The faulty accommodation in the eye is affected by the lens which is used.

Q.—But that still exists, the faulty action of the eye without the lens still exists? *A.*—If the lens is taken away, I understand that the faulty accommodation will be there and they must continue with the glasses.

THE COURT: *Q.*—In other words, the relief is purely mechanical? *A.*—Purely mechanical.

Mr. Hough: *Q.*—Would you say in that case, that the headache was cured? *A.*—In that case I should say the headache was cured.

Q.—But the thing that caused the headache was not cured? *A.*—Evidently, yes, sir.

Q.—Now, in the same sense you have answered all the questions of the direct examination, have you not? You referred to a cure of the thing which caused the symptom? *A.*—Yes. When I refer to cure I have in mind the underlying cause of the symptom.

Q.—So that even though the symptoms should disappear as a result of any particular treatment, the giving, for instance, of medicine by the mouth, you would not say that there had been any cure from the patient's point of view? *A.*—I would say not. May I illustrate that?

Q.—Did you answer it yes or no first? *A.*—I answered it.

(The answer was then read.)

Q.—That it was not cured? *A.*—That it was not cured.

Q.—But the patient would consider herself cured?

Mr. T. J. Scofield:—That is objected to.

THE COURT:—It is difficult for the doctor to know the abstract state of mind of the patient.

Mr. Hough:—I did not know what the limitation of his knowledge was, and I thought I would find out.

To which ruling of the Court the plaintiffs, etc., excepted.

Mr. T. J. Scofield:—Let the witness give the illustration that he asked to give.

The Witness:—I wish to illustrate what I mean, if you will allow me.

Mr. Hough:—That is all right, go ahead, Doctor. *A.*—I will just take the last case that I went into with you, that case of placenta praevia. I will just instance the last case that you talked to me about, that case of placenta praevia. Now, that patient bled for two weeks in February and then stopped. She bled again for two weeks previous to her admission to me. That patient might have stopped bleeding again, stopped bleeding—that is conceivable. I can conceive of that patient out in the country, in the hands of a doctor who would give her some sedative medicine and get relief. He might have relief for two weeks, or three or four weeks in her case. He might say that she was cured. That patient might be allowed by him to go on a trip. A hemorrhage again might develop while she was on that trip, and it might endanger her life within five or six or ten hours. Now, I mean in such a case that while the patient's bleeding has stopped, and the patient thinks she is all right, she still has that afterbirth growing about the lower part of the womb and her life is in a critical condition.

Mr. Hough:—Well, if she has it growing about the lower part of the womb, she never will be free from that pain and bleeding, will she? *A.*—She might be. A large number of those cases never bleed until along the sixth or seventh or eighth month and the woman may consider herself a perfectly normal pregnant woman.

Q.—Have you finished?

THE COURT:—In this class of cases, are there any successful deliveries? *A.*—Successful deliveries?

Q.—Yes. *A.*—Yes, sir.

Q.—What percentage? *A.*—The percentages vary.

THE COURT: *Q.*—I mean without surgical interference? *A.*—I cannot recall, your Honor, any case of placenta praevia that has been delivered spontaneously without any assistance, except those that I have seen dead. All the cases of placenta praevia that I have had to do with, are those where treatment has been carried out. That treatment is mechanical, or manipulative. You may call it surgical in that sense; mechanical and manipulative. The risk to the child is very great, and the death rate in my experience—the death rate in placenta praevia treated through the vagina, by delivery through the vagina, is somewhere about 60 per cent. and the death risk to the mother by methods carried out through the vagina, certainly from 15 per cent. to 20 per cent. It has a high mortality, a great danger treated in that way.

Mr. Hough: *Q.*—Now you said that Cardui would not cure a prolapsus, on direct examination. Assume Cardui to be the hypothetical medicine which was described to you, and that the two ingredients which were named possessed the properties which were implied in the hypothetical question; would such a medicine be of any value in a case in which the womb was put back into position and held in position by a pessary or tampon? *A.*—If it has the qualities attributed to it, if it be a uterine sedative—

Q.—We have assumed that in the question. *A.*—Yes. And that patient had pain in connection with menstruation, it might or might not relieve her of some of the pain. I cannot say.

Q.—Of course that is true of all medicines, isn't it? *A.*—That is true of all medicine.

Q.—Now, suppose a woman came to you with a prolapsus in the first degree, we will say projecting about one quarter to one half an inch, below the perineum, without any breakage of the perineum. What would be your treatment? *A.*—You mean not protruding from the perineum?

Q.—Down a quarter or half an inch, a first degree prolapse, which has nothing to do with a pregnancy or the delivery of a child? *A.*—One quarter to how much?

Q.—Half an inch? *A.*—A slight prolapse?

Q.—Yes. *A.*—Do you mean with or without retroversion? Just the whole uterus sagging down?

Q.—Suppose it is, if it ever comes down without retroversion— assume all those cases, either with or without retroversion? *A.*—Well, it would depend upon the condition of the parts. If there was—If the uterus was very much enlarged or tender, or there was ovarian inflammation, tubal inflammation, I would by attention to the bowels, and by local treatment, a glycerin tampon treatment—

Q.—Do you mean a douche treatment? *A.*—and douches, try to reduce the inflammation in those parts, and then at the same time, attending to the woman's general health and occupation.

Q.—You mean by giving her some sort of a tonic? *A.*—No, I mean by trying to cut down the amount of work that she does, lifting and standing, and straining.

Q.—In other words, you would recommend rest? *A.*—Rest. Not necessarily in bed, but some rest from hard work. Then, if I reduced the inflammation somewhat, satisfactorily, so that she could bear the presence of a pessary, I would put the womb in position and introduce a support, a pessary to hold it there, and I would have her wear that and change it from time to time every two or three months, using a cleansing douche every day or every other day to prevent discharges accumulating around the pessary, and that would be my line of treatment in that case.

Q.—Are there any medicines, which taken by the mouth, will tend to tone up the broad or round ligaments? *A.*—I do not know of any. I have tried ergot in such cases, not for the effect on the ligaments, but for the effect on the womb, to try to harden it and reduce it and possibly check—

Q.—That would be only in cases where the prolapsus was due to the increased weight? *A.*—Oh, well, but there might be bleeding in many of these cases, increased menorrhagia or metrorrhagia either from increase—apart from the increase in size. There may be very little increase in size, and yet a bleeding tendency be present. I would give ergot.

Q.—You would never try to tone up the muscles or the ligaments? *A.*—The toning of the—

Q.—Well, would you or wouldn't you, Doctor? Would you try to tone them up? *A.*—I know nothing which will tone those ligaments.

Q.—Would you try to tone them? *A.*—I do not know how to tone them.

THE COURT:—If you could, would you do it? *A.*—Certainly, if I could, I would.

Mr. Hough:—Now, apart from toning up the ligaments, the broad ligaments, is there any advantage in toning up the general system? *A.*—Why, certainly. If the patient is illy nourished, certainly I try to get her to taking better food.

Q.—I am talking about the use of a uterine tonic or sedative? *A.*—The only use of a uterine tonic (which is ergot in my practice) in such a case, is to harden the uterus, and try to diminish the amount of discharge from it.

Q.—But are there any other uterine tonics that you know of besides ergot? *A.*—Pituitrin.

Q.—No, taken through the mouth? *A.*—Hydrastis has been given by the mouth.

Q.—Did you ever give panopepton? *A.*—No, sir, I have not; I do not know anything about panopepton.

Q.—Hydrastis? *A.*—Hydrastis.

Q.—Aletris cordial? *A.*—No, sir, I have not given that.

Q.—Liquor sedans? *A.*—No, sir, I have not.

Q.—Just viburnum and hydrastis was your limit? *A.*—I have not used viburnum for a long time.

Q.—And ergot? *A.*—Ergot.

Q.—Is anything which would tone up those parts helpful in that case? We are speaking of this case of prolapsus still? *A.*—Everything which helps to improve the patient's health, presumably, will help the local structures. If that patient were anemic, Mr. Hough, certainly I would give her iron.

Q.—You mean you would give her a tonic? *A.*—Yes, iron. Certainly I would give her iron.

Q.—As a rule, patients in that condition do become more or less neurasthenic or anemic, do they not? *A.*—Many do.

Q.—So that in the majority of cases a tonic of some sort would be indicated, would it not? *A.*—A tonic of that kind would be indicated. Where there is anemia I would give the iron tonic, certainly.

Questions were than asked concerning the symptoms of retroflexion and retroversion, and as to whether drugs might be given by mouth in the treatment of such conditions.

Q.—Doctor, do you think a delicate, anemic woman, is more apt to have an easy childbirth, than a strong woman? *A.*—No, sir; I do not.

Q.—You think the strong woman would have the easier of the two? *A.*—It has been my experience.

Q.—Has it been your practice to ever give any medicine to any woman during pregnancy? *A.*—Oh, yes, sir.

Q.—For what purpose would you give medicine? *A.*—It would depend on conditions. For instance, I would use, if there were imperfect elimination of urine—frequently use a diuretic. My favorite one is sodium acetate for that purpose. If the patient is anemic, again I would use iron. If the patient—there are a great many conditions in pregnancy, Mr. Hough. Do you want me to go over more? It would depend—

Q.—If you can think of any more? *A.*—If the patient had a history of syphilis I would use iodid of potash and mercury. I frequently use laxative medicines in pregnancy.

Q.—That medicinal treatment would help to make childbirth a little easier for her, would it? *A.*—Inasmuch as it improves her general condition, and made her stronger it would.

THE COURT:—In the case of a normal woman, Doctor, what is indicated in the way of medication? *A.*—In pregnancy?

Q.—Yes? *A.*—If she is absolutely normal?

Q.—Absolutely normal? *A.*—Digests her food, has a regular bowel movement, daily—I don't use any medicine.

Mr. Hough: *Q.*—Are there many women who are absolutely normal in these times? *A.*—As regards the need for medicine, Mr. Hough, the majority of such women that come under my observation, are; with the exception of bowel constipation. That is the commonest condition for which I give medicines in pregnancy.

Q.—Don't you give them general tonic treatment? *A.*—In pregnancy?

Q.—Yes? *A.*—If they are normal?

Q.—Well, but in the percentages that are not normal. The majority are not normal at that time, are they?

Mr. T. J. Scofield:—I object to that statement.

THE COURT:—The witness has told us that they were, that the majority was.

Mr. Hough:—I did not understand that.

Mr. T. J. Scofield:—Yes.

Mr. Hough: *Q.*—Did you say the majority was? *A.*—I said normal in requiring medicine.

Q.—Or any medicinal tonic? *A.*—Or any medicinal tonic; that is my practice.

Q.—Do you know whether that is the general practice or not?

Mr. T. J. Scofield:—That is objected to.

Mr. Hough:—I ask if he knows.

THE COURT:—He may answer.

To which ruling of the Court the defendants, etc., excepted.

A.—I do not know, Mr. Hough.

REDIRECT EXAMINATION BY MR. T. J. SCOFIELD

Q.—Doctor, in your cross-examination you stated to Mr. Hough that, in a good many cases of curettement, that they were not satisfactory in result. You spoke particularly of gonorrheal conditions. Now, will you tell the jury why, if you can, it is that in such a condition curettement is not satisfactory, as a rule? *A.*—In gonorrheal inflammation of the womb, curettement—that is to say, scraping out the lining which is a thin layer about one quarter of an inch in thickness, is unsatisfactory, because all the rest of the thickness of the womb, which you see in these diagrams, is infected with the organism and after a short time these organisms will work up to the surface, infect it again and the patient will have the same discharge. It is for that reason that it is unsatisfactory.

Q.—You also stated that a curettement was not satisfactory in some other cases, mentioning the case of varicose veins. Varicose veins where, doctor? *A.*—Varicose veins that are common in the broad ligaments of the womb; the veins that run from the womb, the upper part and the lower part. Such a condition is very apt to cause a chronic venous congestion, and, after scraping the womb in such a condition, one is apt to have the patient bleeding excessively at menstruation, or it may be between times and when the womb grows over, she may be troubled again with a troublesome discharge.

Q.—Doctor, you have also stated in answer to a question by Mr. Hough, that in cases of inversion, in some instances, you would give a tonic. Would you give the tonic for the inversion or for the general health of the woman? *A.*—I stated that after replacing the inverted womb—that is the essential, and all important thing, to replace it, and it can only be replaced by mechanical means, by means of the hands—if the patient were much run down and anemic, I would give her an iron tonic.

Q.—Then, if I understand you, doctor, you would not expect to replace the inverted uterus by a tonic? *A.*—That would be absolutely impossible.

Q.—Now, doctor, in your cross-examination, the question was asked you as to these patients now in the Presbyterian Hospital, whether or not they were pay patients or charity patients. Will you tell the jury whether, so far as care and treatment of the patients who are under your control and charge in the Presbyterian Hospital, is concerned, you make any difference in the method of treatment or the care or attention that you give them, whether they are pay patients or charity patients? *A.*—The majority of my patients in the Presbyterian Hospital are patients to whom I give my services entirely free of charge, Mr. Scofield.

THE COURT:—The question is, so far as the actual services are concerned.

The Witness:—My treatment is the same for both, absolutely the same for both.

TESTIMONY OF DR. A. J. REYNOLDS

Dr. A. J. Reynolds was called as a witness for the defendants.

DIRECT EXAMINATION BY MR. LOESCH

Dr. A. J. Reynolds testified that he resides at Fort Necessity, La. He graduated from the Memphis Hospital Medical School, Memphis, Tenn., in 1909; subsequently he was house surgeon in Industrial Hospital at Elizabeth, La., for nine months. He has had a general country practice at Fort Necessity for two years. He testified that he was called in February, 1913, to attend a woman who gave a history of having suffered for some months with pelvic pains. She had been taking Wine of Cardui for relief which she had not secured; she also had leukorrhea. On examination he found a mass of adhesions on the right side. An operation was performed by Dr. Dix of Natchez, Miss. The patient was a married woman about 23 years of age and weighed about 90 pounds. On operation were found adhesions as a result of chronic salpingitis; the broad ligaments were bound down and almost obliterated. The last time she was seen by Dr. Reynolds, after the operation, she weighed 130 pounds.

The witness was asked if he had ever seen women use Wine of Cardui as a beverage.

The Witness: *A.*—I have seen them use it, drink it from the bottle.

Mr. Loesch: *Q.*—Under what circumstances and where, Doctor? *A.*—The case in mind now was a case—I was working for the Long Bell Lumber Company at the time, and on being called to the place—

Mr. Walker:—Was that Long Bell Lumber Company? *A.*—Well, that was one of their mills, of the Long Bell Lumber Company, yes, sir. On being called to see the patient, someone of the children, I think, in the house was sick, and while there the woman of the house, the mother, took a bottle of Wine of Cardui from the sideboard and drank from the bottle. I asked her: "Why, are you sick, too?" "No, not especially; just taking Wine of Cardui; I have a pain in the back." This is the special case. That is the only one I have talked to.

THE COURT:—Don't drop your voice, doctor, because the jury are all interested in your testimony.

Mr. Loesch: *Q.*—They are all interested. Have you seen other women use it as a beverage? *A.*—I have seen them drink it like this, but not having the names in mind.

Q.—In the case that you mentioned, you have the name in mind, of that woman? *A.*—I have.

Q.—Are you willing to give that name on the stand now?

Mr. Walker:—This woman was not a patient, this woman that drank it. It was somebody he says he saw do that. It was not his patient.

THE COURT: *Q.*—This person whom you say drank it as a beverage was not a patient of yours?

The Witness:—No.

THE COURT:—You have no objection to giving the name of that woman, have you?

Mr. Loesch:—You are willing to give her name, are you not? *A.*—Yes.

Q.—What was her name? *A.*—Mrs. L——.

Q.—Where was she living at this time? *A.*—DeRidder, Route Number 2.

Q.—What city? *A.*—DeRidder.

Q.—That is all, Doctor. Take this witness.

CROSS-EXAMINATION BY MR. WALKER

The witness was asked concerning the name and address of Mrs. L——, also as to her family and the names of members of the family.

Mr. Walker:—Was it one of their children that you treated? *A.*—Yes.

Q.—Who paid that bill, the man? *A.*—No.

Q.—What was the child's name? *A.*—I don't know.

Q.—How many children were there in the family? *A.*—I don't know.

Q.—How old was the child you treated? *A.*—I don't know, sir.

Q.—What was the matter with her? Was it a girl or a boy? *A.*—A girl.

Q.—What was the matter with the girl? *A.*—I don't know.

Q.—How old was it? *A.*—I don't know that either.

Q.—Well, was it under ten or under five? *A.*—Under ten.

Q.—Was it over five? *A.*—Well, I think it was.

Q.—Somewhere between five and ten. Could you get any nearer than that to the age of this child? *A.*—No, sir.

Q.—How many times did you call to treat the child? *A.*—Oh, I don't know.

Q.—Can't you give me any idea? *A.*—I did the practicing for all these people. I don't know whether I called to see this child any more or not.

Q.—How many times did you call to see that child? *A.*—I don't know.

Q.—More than once? *A.*—For this particular ailment I don't know whether I called more than once or not.

Q.—Did you not call to see the child, that same child for another ailment? *A.*—I don't know, sir.

Q.—You don't know whether you did or not. Then you haven't any knowledge that you called to see the child more than once, that child? *A.*—No, sir; I have not.

Q.—After you called, did it die? *A.*—Not to my knowledge.

Q.—Is it dead yet, that you know of? *A.*—Not that I know, sir.

Q.—Do you know whether it is or not? *A.*—I don't know.

Q.—When you saw the mother in 1912, did you see the child again?

Mr. Loesch:—I suppose every time a doctor calls on one of your children they die, don't they, Mr. Walker?

Mr. Walker:—I think they might if they came from the lumber camp.

Mr. Loesch:—Well you must have nice doctors, to think that.

Mr. Walker:—I haven't got a doctor that don't know what is the matter with them when he calls.

Q.—What were you doing in 1912? *A.*—In 1912?

Q.—Yes. *A.*—I was company physician.

Q.—Still for the same lumber company? *A.*—The same company, sir.

Q.—And where did you see this woman—were you at the house of this woman at all in 1912? *A.*—I am not sure that I was at her house in 1912.

Q.—Did you ever call again after that call? Did they ever call you in again to treat any other member of the family? *A.*—I don't know that they did.

Q.—You don't remember that they did? *A.*—No, sir.

Q.—You are pretty sure that they did not, aren't you? *A.*—Well, I am not sure either way.

Q.—Either way. How many were there in the family? *A.*—I don't know.

Q.—Where was the woman when she took the Wine of Cardui, this woman, L——? *A.*—She was in the room.

Q.—Where the baby was? *A.*—Yes.

Q.—Was the child in bed? *A.*—Yes.

Q.—And while you were looking at the child she went over somewhere and got a bottle of Wine of Cardui? *A.*—Yes.

Q.—Where did she get it? *A.*—From the sideboard, the mantle board, or dresser. She took the bottle from the shelf in the room.

Q.—And you asked her whether there was something the matter with her? *A.*—I did.

Q.—And she said she had pains in the back, didn't she? *A.*—Yes.

Q.—Anything else? *A.*—That is all she said.

Q.—And she took a swallow out of the bottle? *A.*—Yes.

Mr. Loesch:—He didn't say that; I beg pardon, Mr. Walker, he didn't say that. He said she took a good, big drink.

Mr. Walker:—He said it now; that is good enough for me.

Mr. Loesch:—No he didn't say it; you said it. He said she took a good, big drink. Now I am not going to sit here and let you chuck words into the witness' mouth, Mr. Walker, I want to let you know that right now.

Mr. Walker:—What do you want me to chuck—Wine of Cardui?

Mr. Loesch:—Well, that is your medicine, not mine.

Mr. Walker:—I wish you would take some, and it would probably do you good.

Mr. Loesch:—Not according to the testimony of the witnesses.

Mr. Walker: *Q.*—Mr. Witness, how much—when this woman put the Wine of Cardui to her lips, how much did she drink? *A.*—She took a swallow.

Q.—A swallow? *A.*—A swallow or two from the bottle, from the—

Mr. Walker:—That is what I thought he said.

THE COURT:—A swallow or two?

The Witness:—A swallow or two from the bottle.

THE COURT: *Q.*—A swallow or two from the bottle? *A.*—Yes.

Mr. Walker: *Q.*—Well, which was it, one or two? *A.*—From the time she held the bottle to her mouth she must have taken two.

Q.—Well, which did she take, one or two? *A.*—I judge from the time she held the bottle to her mouth she must have taken two swallows.

Q.—Are you sure she didn't take more? *A.*—No, I am not.

Q.—Now you could tell—you could remember more about the Cardui and her swallows than you could about the child, can you, that you treated? *A.*—I remember what I have told you about the Cardui and child.

The witness was then asked further questions concerning the first patient mentioned in the direct examination and he gave the name and address of Dr. Dix. He was asked whether he knew Dr. Heizer and whether he had received a letter from the Louisiana State Board of Health.

He testified that he was accompanied by Mr. Bonner and Mr. Turner whose testimony follows, when he came to Chicago. He first learned of the lawsuit from the medical journals.

Adjournment was taken until 10:30 a. m., April 14, 1916.

April 14, 1916, Morning

The Court met pursuant to adjournment. Dr. A. J. Reynolds resumed the stand.

FURTHER CROSS-EXAMINATION BY MR. WALKER

Dr. A. J. Reynolds testified that he had not seen any one offer people in his neighborhood money to testify that they had seen people drink Wine of Cardui. He was asked if he knew Mr. John F. Brownell and as to whether or not he had told Mr. Brownell that if he would come to Chicago to testify that a man got drunk on Wine of Cardui. He answered that he did not tell that to Mr. Brownell. He told Mr. Turner and Mr. Bonner that if they would come to Chicago to testify, their expenses would be paid and they would receive a reasonable per diem.

REDIRECT EXAMINATION BY MR. LOESCH

The witness testified that he met Mr. Brownell accidentally in the morning on the corner near the West End meat market in the town of Winsboro, La., and that Mr. Brownell stated that "he had sold Wine of Cardui for a number of years and that he had to quit selling it; his wife drank it all the time and that he quit selling it."

TESTIMONY OF MR. M. H. BONNER

Mr. M. H. Bonner testified that he lives at Fort Necessity, La., and it is not a town, just a village—two stores. A dozen families live nearby. The first time he used Wine of Cardui was at a neighbor's house.

Q.—Speak up a little louder, otherwise we cannot hear you. The room is large. *A.*—The first I ever drank, I was at a neighbor's house one day and I saw a bottle sitting on the mantle, and I did not know what it was. I thought it was wine at the time.

Q.—What was it marked? *A.*—Wine of Cardui, but I did not know—I did not know but what it was wine.

Mr. Walker:—I move to strike that out.

THE COURT:—Strike out what he does not know.

To which ruling of the Court the defendants, etc., excepted.

Mr. Loesch: *Q.*—Why did you think it was wine?

Mr. Walker:—That is objected to.

THE COURT:—That is not important.

To which ruling of the Court the defendants, etc., excepted.

Mr. Loesch:—Yes it is, there is the label. That is the impression.

The Court:—Go ahead.

Mr. Loesch: *Q.*—Well, what did you do? *A.*—I opened it and took a drink of it.

Q.—Was that the first time you tasted it? *A.*—That is the first time, yes.

Q.—Did it make you sick? *A.*—No, it did not.

Q.—What was the effect.

Mr. Walker:—The same objection.

A.—I don't remember what the effect was.

THE COURT: *Q.*—How much did you drink? *A.*—I just took a swallow; I don't remember exactly how much I drank, I could not say.

Mr. Loesch: *Q.*—When was the next time?

THE COURT:—Wait a minute. Did it taste good? *A.*—Why, yes; it tasted like wine to me.

Q.—Did you like it? *A.*—It tasted pretty good; yes, sir

Mr. Loesch: *Q.*—When next did you drink it? *A.*—About 18 months ago as near as I remember right now. I started to a dance one evening with two other boys and we had been drinking whiskey.

Q.—Mr. Bonner, you must speak up. *A.*—We had been drinking whiskey and we drank all the whiskey we had and started to the dance and on the way there we stopped at the store, John Brownell was the proprietor of the store. We stopped there and I asked him did he have anything to drink? And he says, "I have got nothing but Cardui," and handed me a bottle across the counter and I opened it and took two or three swallows out of the bottle. He says, "It is all right, I drink it myself."

THE COURT: *Q.*—What did that cost you?

Mr. Walker:—I move that be stricken out. He repeated what he said, Brownell said.

THE COURT:—Strike out what Brownell said.

To which ruling of the Court the defendants, etc., excepted.

Mr. Loesch:—That is part of the res gestae your Honor.

Mr. Walker:—Oh, I withdraw the objection, let it go.

THE COURT:—All right.

Mr. Hough:—The court asked a question which he did not answer.

THE COURT: *Q.*—What did this cost you, this bottle? *A.*—Nothing.

Q.—It was a present from Brownell? *A.*—Yes, sir.

Mr. Loesch: *Q.*—Mr. Bonner, what parish is that in? *A.*—Franklin Parish.

Q.—What name? *A.*—Franklin Parish.

THE COURT:—In Louisiana they have no counties, they are all called "parishes," are they not? *A.*—Yes, sir.

Mr. Loesch:—Is Franklin Parish a dry territory? *A.*—Yes, sir; it is.

CROSS-EXAMINATION BY MR. WALKER

The witness testified that Dr. Reynolds was a brother-in-law of Mr. Turner. He testified that he first saw a bottle of Wine of Cardui and took a drink from it eight or nine years ago; that Wine of Cardui resembled blackberry wine. He started to drink whiskey when he was 23 years old and he is now 26. The Wine of Cardui was tasted in Mr. Turner's residence. He was repeatedly cross-examined concerning the various incidents described in the direct examination. He testified that in the crowd with him when he drank Wine of Cardui were Paul T——, Alsit M—— and George P——.

Q.—What is his father's name? *A.*—George P——.

Q.—The same name. You and P—— and M—— and T—— were in the crowd. Were there any girls with you? *A.*—No, sir.

Q.—Where did you drink the whiskey? *A.*—Where did we drink it?
Q.—Yes. *A.*—On the way to the dance.
Q.—Where did you get it? *A.*—Why, the niggers gave a cotton picking at home that evening.
Q.—And you got some of their whiskey? *A.*—I got some of it; yes, sir.
Q.—How much did you have? *A.*—Had about a pint.
Q.—Well, you drank all that, and then you went to whose store? *A.*—John Brownell's.
Q.—That is the man that keeps the store at what point? *A.*—He kept the store then at Lydiaville.
Q.—That is the store you went into? *A.*—Yes, sir.
Q.—A year and a half ago? *A.*—Yes, sir.
Q.—The four of you—did all four of you go in there, M——, and T—— and P——? *A.*—I believe so. I remember T—— going inside with me. I don't know that P—— and M—— went in or not, but they were on the porch you know.
Q.—Did you take the bottle outside? *A.*—No, sir.
Q.—Did you give P—— and M—— a drink? *A.*—No, sir.
Q.—You and T—— went in, you say? *A.*—Yes.
Q.—Leaving P—— and M—— on the outside? *A.*—Possibly they might have been inside, I don't remember.
Q.—What is your best recollection about it? *A.*—I remember that T—— and myself was on the inside.
Q.—Did they drink any? *A.*—They did not.
Q.—P—— and M——? *A.*—They did not.
Q.—Did T——? *A.*—He did not.
Q.—He did not? *A.*—He did not.
Q.—You just went up to Mr. Brownell—and what did you ask him? *A.*—I asked him did he have anything to drink.
Q.—And he said he had nothing but Cardui, and then he opened a bottle? *A.*—Just passed the bottle to me.
Q.—Was it there already opened? *A.*—It was.
Q.—Lying there open? Did it have a carton around it? *A.*—He just handed me the bottle.
Q.—He handed you the bottle? *A.*—Of Wine of Cardui.
Q.—Did you read the label? *A.*—I did.
Q.—It was just a plain bottle, not with a carton on it? *A.*—No, sir; there was no carton on it.
Q.—And the bottle was open? *A.*—Yes, sir.
Q.—How much was in it? *A.*—It looked like it was about two thirds full.
Q.—You took a drink out of it? *A.*—I took a drink; yes, sir.
Q.—How much did you drink? *A.*—About two or three swallows, I don't know exactly how much I took.
Q.—About two or three swallows? *A.*—Yes, sir.
Q.—Did Brownell join you? *A.*—He did not.
Q.—He put the bottle back. Did it taste like wine that time? *A.*—Yes, sir; it tasted something like wine.
Q.—What wines had you been drinking between the time you began to drink whiskey, and when you went in to Brownell? *A.*—I don't remember, I drank several kinds.
Q.—What kinds, name them? *A.*—Blackberry wine.
Q.—Any other? *A.*—Port wine.
Q.—Did this taste like port to you? *A.*—I don't know as it did.
Q.—What else? *A.*—It tasted more like blackberry wine.
Q.—What else had you drank besides port? *A.*—I drank whiskey.
Q.—Any other wine besides port? *A.*—I don't remember any other, I might have drank it.
Q.—And this tasted like that to you? A.—Tasted something like that.
Q.—That is the stuff you got at Brownell's did? *A.*—Yes, sir. Wine of Cardui is what I drank.
Q.—The bottle that Mr. Brownell gave you tasted like port wine?
Mr. Loesch:—He did not say that.
The Witness:—I said Wine of Cardui tasted something like blackberry wine.
Mr. Walker: *Q.*—The bottle that Brownell gave you tasted like that? *A.*—Something like it; yes, sir.
Q.—Brownell saw you take the drink? *A.*—Yes, sir.
Q.—Did he charge you anything for it? *A.*—He did not.
Q.—Then where did you boys go, you young men?

Mr. Loesch:—That is objected to.
THE COURT:—He may answer.

To which ruling of the Court the defendants, etc., excepted.

Mr. Walker: *Q.*—After you had had your drink what did you do? *A.*—We went on up to where they was to have the dance.
Q.—What did they have to drink at the dance? *A.*—Why they did not have a dance that night; they did not get the music or something, and they did not have the dance.

TESTIMONY OF MR. PAUL TURNER

Mr. Paul Turner was called as a witness for the defendants.

DIRECT EXAMINATION BY MR. LOESCH

Mr. Paul T. Turner resides at Fort Necessity, La., about half a mile from the village. He is a brother-in-law of Dr. Reynolds. He testified that he was with Mr. Bonner at Brownell's store.

Mr. Loesch: *Q.*—Please state to the Court and jury what occurred there. *A.*—Well, we started to a dance and we had been drinking about a pint of whiskey, we had that—we drank that up, and we got to this store and Mr. Bonner asked for something to drink, and he handed this, this bottle of Wine of Cardui.

The witness testified that he saw Bonner drink some of the liquid in the bottle and saw on the label of the bottle that is was Wine of Cardui.

CROSS-EXAMINATION BY MR. WALKER

On cross-examination, the witness testified that he came to Chicago with Dr. Reynolds and Mr. Bonner. They have been in Chicago for three weeks. Besides their expenses which are being paid by the American Medical Association they are getting a reasonable per diem of $5. The witness is a farmer who raises cotton and makes $500 or $600 a year.

Q.—Did Dr. Reynolds tell you that if you had ever seen anybody take Wine of Cardui, or drink it, that you could come up to Chicago and get your expenses paid and earn something a day coming up here? *A.*—Yes, sir.
Q.—He did tell you. Then you told him about Bonner. *A.*—Yes, sir.
Q.—About seeing Bonner in the store taking in? *A.*—Yes, sir.
Q.—Who was in the company? *A.*—Well, there was Bonner, Mark Bonner, Alsit M——, George P—— and myself.
Q.—How old are you? *A.*—Twenty years old.
Q.—Do you drink whiskey? *A.*—Yes, sir.
Q.—How long have you been drinking whiskey? *A.*—Oh, about five or six years.
Q.—And you are 20 years old now? *A.*—Yes, sir.

REDIRECT EXAMINATION BY MR. LOESCH

Q.—You are a planter on your own account? *A.*—Yes, sir.
Q.—And you have your own farm there? *A.*—Yes, sir.

RECROSS-EXAMINATION BY MR. WALKER

Q.—Who do you split $600 with? *A.*—I don't split it with anybody.
Q.—You get it all? *A.*—Yes, sir.

TESTIMONY OF DR. JOSEPH B. TANNER

Dr. Joseph B. Tanner was called as a witness for the defendants.

DIRECT EXAMINATION BY MR. LOESCH

Dr. Tanner resides in Benevolence, Randolph County, Ga. He has been practicing medicine for twelve years and is a graduate of the Atlanta College of Physicians and Surgeons.

The witness was asked concerning cases in his practice connected with Wine of Cardui. The names and addresses were given to the jury in confidence.

A.—The first case is Mistress A., who had been taking Wine of Cardui. I was called to see her first in 1908 or '09 I won't say which year it was, but it was either 1908 or '09 and she was complaining from painful menstruation. On examination as a part of the medical history, she told me that she had been taking Wine of Cardui for two or three years, that is, she would not be positive that it was two years or three years, but said somewhere about two or three years. On ocular examination and also with bimanual examination, I found a very small cervical canal and I advised a dilation of the canal and she would not submit to it then, but about two months later she consented to it and in the meantime she kept on taking this Wine of Cardui at each monthly period. After she submitted to the dilation she did not suffer with that difficult menstruation any more and she was a perfectly well woman. About two years after that she was taken with a case of acute pneumonia and died.
Q.—Was she under your charge at the time she died? *A.*—She was in good health up to the time of that acute pneumonia, and she only lasted about eight days.
Q.—How old was she, doctor? *A.*—She was 26 years old.
Q.—She had had no child? *A.*—No, sir.
Q.—Well, you may mention your next case. *A.*—The next is Mistress L. In the spring or summer of 1911, I was called to see her and, on examination I found that she was suffering from a cancer of the cervix and I advised an operation. She said that from the literature that she had read concerning Wine of Cardui, that she preferred to try that instead of the operation.

Mr. Walker:—I do not think that is competent.
Mr. Loesch: *Q.*—Had she been using it at that time?

Mr. Walker:—And I move that that be stricken out.
THE COURT:—Strike out what she preferred to do.

To which ruling of the Court the defendants, etc., excepted.

Mr. Loesch: *Q.*—Was she using Wine of Cardui at that time? *A.*—She said she had used Wine of Cardui and she had taken it for seven months at the time, about seven months, and I was called again and she said that she was willing to submit to that operation; that she had tried that Cardui and it had done her no good.
Q.—That was seven months after you first saw her? *A.*—That was seven months after the first time I seen her, and I carried her to Atlanta to Dr. Floyd McRea and he made an examination and he said it was too far gone.

Mr. Walker:—I object to that—oh, well, never mind.
Mr. Loesch: *Q.*—Well? *A.*—That it was too far gone, and I carried her back home and she died about three months afterwards.
Q.—You went with her to Atlanta? *A.*—I went with her to Atlanta, and was with her at St. Joseph's Hospital when Dr. Floyd McRea made the examination.

Q.—She took it for seven months after you had made your original diagnosis, and told her she had cancer?

Mr. Walker:—No, that is not what he said.

Mr. Hough:—Oh, never mind.

Mr. Loesch: *Q.*—After you made your first examination? *A.*—After I made the first examination.

Q.—In 1911? *A.*—What say?

Q.—In 1911? *A.*—1911, she had taken Wine of Cardui for about seven months.

Q.—And then— *A.*—Then I was called back again, and she said she was willing to submit to the operation, and I told her I would go with her, carry her to Atlanta to Dr. Floyd McRea and at the Infirmary Dr. Floyd McRea confirmed my diagnosis and told her that it was too late, and I carried her back home, and she died in about three months afterwards.

Q.—Between the first examination— *A.*—Between the first and the second—

Q.—When you— *A.*—she had taken Wine of Cardui.

Q.—and the second examination when she came to you, and said she would have the operation, how many months elapsed? *A.*—About seven months.

Q.—And she stated this second time that she had been using Wine of Cardui during that seven months? *A.*—Yes, sir; and it had done her no good.

Q.—Was she a married woman; had she any children? *A.*—She was a widow lady.

Q.—Had she any children? *A.*—Yes, sir.

Q.—What was she, a farmer—a farmer's wife? *A.*—A farmer's wife, and her children ran the farm after her husband died.

Q.—What is your next case, Doctor, if you have any? *A.*—The next is Mistress E. L. C. I was called to see her in 1913, and on examination, I could not find anything that was the matter with her, except that she was nervous and hysterical. I asked her what she had been doing and she told me she had been taking Wine of Cardui for some time. I asked her how long, and she said she could not tell me exactly how long it was, and I asked her how—did it seem to do her any good. She said that at first she could not take the dose that was prescribed on the bottle, that it made her dizzy or drunk to start with, but at the present time she was taking about two tablespoonfuls every three hours to brace her up, to keep her going at her work, and I advised her to leave it off and to go off to the Springs for a rest. I thought that would do her more good than medicine would.

Q.—Did you prescribe any medicine? *A.*—None at all.

Q.—Why not? *A.*—I did not think she needed any. There was not anything the matter with her.

CROSS-EXAMINATION BY MR. WALKER

He was cross-examined concerning the facts related in the direct examination giving essentially the same replies. He left home on the 27th of March and came to Chicago alone. He first met Dr. Heizer in Atlanta, Ga., and heard of the present suit through the Secretary of the Georgia State Medical Society. He is a member of his County and State Associations but not a Fellow of the American Medical Association nor is he a subscriber to THE JOURNAL. He was told that if he could come to Chicago and testify he would receive a reasonable per diem and his expenses would be paid.

TESTIMONY OF DR. EDWARD E. MONTGOMERY

Dr. Montgomery was called as a witness of the defendants.

DIRECT EXAMINATION BY MR. T. J. SCOFIELD

Dr. Edward E. Montgomery testified that he is a physician specializing in gynecology in Philadelphia. He graduated from the Jefferson Medical College in 1874. He has devoted his practice for the last 30 years almost exclusively to gynecology. He was intern in the Philadelphia Hospital for 15 months and staff obstetrician for 15 years. He has been professor of gynecology in the Jefferson Medical College since 1892. Asked to state his experience, he gave his hospital appointments and stated that he has operated on some 6,000 or 8,000 patients and has treated and investigated three times as many and more. He was one of the contributors to Keating and Coe on Gynecology, American Text Book on Ovarian Tumors, Department of Gynecology in Keen's System of Surgery and has written a textbook which has gone through four editions. He uses in treatment, hygienic, medical and surgical methods which he defined.

Q.—When a patient comes to you for treatment complaining of different things, what do you do in trying to ascertain what the condition is and what you are treating her for, and what your treatment should be. *A.*—I ascertain first the history of the condition, the conditions from which the symptoms which have led her to consult me, arise and in that way I obtain as accurate a history of her condition and the causes that may have led up to the suffering, as possible I then suggest a physical examination to determine further—

Q.—Now, do you regard in your case the physical examination as necessary to enable you to treat your patient intelligently? *A.*—Without question.

Mr. Hough:—The same objection. I ask that the answer be stricken out and ask the doctor please to wait for me to have an opportunity to object.

THE COURT:—The doctor has merely said that he regards his practice as the best. I think that may stand.

To which ruling of the Court the plaintiffs, etc., excepted.

Mr. T. J. Scofield: *Q.*—Now, Doctor, have you had any experience with the use of herbs in any form, or a medicine known as cnicus benedictus? *A.*—I have not.

Q.—Have you had any experience with viburnum prunifolium? *A.*—Yes, I gave viburnum prunifolium at one time.

Q.—Now, will you please tell us what your experience with viburnum prunifolium has been and your conclusion as to its value as a medicine, if you have any such conclusion. *A.*—I gave viburnum prunifolium for the relief of dysmenorrhea and also in cases of threatened abortion, and after trying it for a length of time, and finding no benefit whatever, I have discontinued its employment.

THE COURT:—When did you give it up, doctor? *A.*—Twenty-five years ago.

Mr. T. J. Scofield: *Q.*—What is your present opinion of its value in such cases, doctor? *A.*—I think it has very little value, so little that when I have other measures that I know to be effective I would not use one of which I had doubts.

Q.—Doctor, I wish now to present to you for your consideration, a hypothetical medicine or solution.

Dr. Montgomery was then asked hypothetical questions similar to that read to the other witnesses. He defined gonorrhea and described some of its complications.

Q.—Now, Doctor, having the hypothetical medicine, or medicinal solution in mind, have you an opinion whether such a medicine taken by the mouth for gonorrhea in women will "act upon the cause of the diseases and is therefore not a mere palliative, but a scientific and specific remedy with a curative effect upon the seat of the trouble?"

Mr. Hough:—One minute, Doctor. Objected to, as the proper foundation has not been laid for that question.

THE COURT:—He may answer.

To which ruling of the Court the plaintiffs, etc., excepted.

The Witness: *A.*—I cannot conceive how the remedy could have any influence at all upon the progress of the disease, that is any beneficial influence.

Mr. Hough:—Pardon me. That was not the question.

THE COURT:—The question was whether you have an opinion.

Mr. Hough:—The cause.

The Witness:—I have an opinion.

Mr. Hough:—Not progress; the cause of the disease was as it was framed, and my objection went to the form of that question. Now the witness answers as to the progress of the disease. The question is: Will that hypothetical medicine have any action on the cause of the disease? As I understand it as to the cause of the gonorrhea.

THE COURT:—Answer it first, doctor, as to the effect on the cause.

The Witness:—The cause of gonorrhea is a micro-organism. I feel that any remedy that would have a destructive influence on the micro-organism must have a very powerful effect, and a destructive influence upon the greater organism through which it passes to reach the minor.

Mr. T. J. Scofield: *Q.*—Now then, doctor, have you an opinion, having this medicinal solution in mind, whether or not it is a specific remedy for that condition, with a curative effect?

Mr. Hough:—Objected to on the ground that no foundation has been laid for that form of question.

THE COURT:—He may answer.

To which ruling of the Court the plaintiffs, etc., excepted.

The Witness:—I do.

Mr. T. J. Scofield: *Q.*—What is that opinion, doctor? *A.*—That it has no such action.

Q.—Now why, doctor, has it no such action, in your opinion?

Mr. Hough:—Objected to.

THE COURT:—He may answer.

To which ruling of the Court the plaintiffs, etc., excepted.

The Witness: *A.*—For the reason that, as I mentioned before, that any remedy to exert influence upon micro-organisms that are invading the body, which reaches them through the blood, must have a powerful influence upon the body itself. In the second place, this remedy contains alcohol, and if there is any one remedy which acts as an irritant and stimulates the action of the micro-organism, alcohol is that remedy. So much so is it, that if a physician wishes to determine if a case is cured of gonorrhea, he gives the patient alcohol in order to see whether the administration of this drug, the influence of this drug will revive any organisms that are remaining latent and quiet in the body of the individual.

Mr. T. J. Scofield: *Q.*—Now, what is the effect of alcohol in that respect, if there are still any organisms there? *A.*—Stimulates them and brings about a relapse or recurrence of the condition.

Dr. Montgomery described prolapse of the uterus referring to the diagram previously mentioned and giving essentially

the same description as that by the former witnesses. He testified that the hypothetical medicine such as that described would not cure uterine prolapse.

Mr. T. J. Scofield: Q.—Now, doctor, when you use the word "cure" in this connection, what do you mean to convey by that word "cure"? A.—Well, to cure the patient, to replace her organs in their normal position. To have the structures as they were before would be impossible. All that we do in cases of this kind is to restore the parts, and maintain them in as near a favorable condition as possible. We can relieve the symptoms, the distress and discomfort, but there is not a cure, in the sense of restoring these tissues to the same condition that they were in prior to the occurrence of the displacement.

Q.—Now, in what way do you relieve symptoms by mechanical means? A.—A woman who has a displacement of the first degree, which occurs, shortly after a labor, when the womb is still heavy, if that woman is directed to get down in the knee-chest position, and the vulva is separated—that is the outer part of the external canal is separated—the air pressure (fifteen pounds to the square inch) carriers this womb up to higher level. It may then, by means of an instrument, an instrument placed under it, which is known as a pessary, or by means of a medicated tampon (which means a cotton gauze with a string attached to it, and medicated) placed under it on the employment of hot and cold douches, and with the patient directed, of course, to avoid wearing tight clothing, to avoid anything that will cause the pushing down of the parts, to avoid having her bowels constipated—the womb will gradually decrease in size, and after it has decreased in size, the ligaments which were fitted for the retention of a normal uterus, a uterus of normal size may hold it back in place. Now, if that patient has taken some medicine during that time, the medicine oftentimes gets the credit which is due entirely to measures which were used outside of it.

Q.—Now, doctor, suppose that the condition is complicated with inflammatory adhesions, what will be the benefit of a knee-chest position if any? A.—The knee-chest position in those cases, together with manipulation, the introduction of the finger into the vagina, or having the patient occupy a dorsal position, that is on her back, with the limbs drawn up, the two fingers introduced into the vagina, and the hand over the abdomen, the parts can be stretched gradually in this way, practicing what is known as pelvic massage under these ligaments. These inflammatory bands become stretched, the changes take place in those, and the womb is gradually loosened and separated from its relations. Just the same as if I had an inflammation in my knee that stiffens my knee, or if I had a fracture in my arm and had it in a splint for a length of time, the parts, from want of use, would become rigid and fixed, and so on, and thus by bending and stretching the parts they again become restored to their normal relations. So that is the same in this case.

Q.—In other words, doctor, if I understand you, neither the knee-chest position nor medicine, nor a combination of the two, will put a womb in proper position, if it is bound down by adhesions? A.—Certainly not.

Q.—It requires massage and mechanical means? A.—Yes, sir.

Q.—Now, doctor, if this medicine is "taken three times a day until about three days before the menstrual period, when four doses should be taken, until the stoppage of the flow," and in addition to that appropriate laxatives are used, together with antiseptic douches, sitz-baths, etc., will you tell us whether or not in your opinion this hypothetical medicine will cure prolapse?

Mr. Hough:—One minute. Objected to on the ground that the proper foundation has not been laid for the asking of the question in that form.

The Court:—He may answer.

To which ruling of the Court the plaintiffs, etc., excepted.

The Witness: A.—The case, just as I mentioned before: If we have the uterus subjected to these mechanical measures which tend to overcome and to correct the displacement, which tend to hold it up until nature can bring about the resolution and involution of the uterus, the reduction to its normal size, that can be accomplished without any medicine whatever, and will be accompanied just as quickly without the medicine as it would with it, and if the medicine is given, and these measures are employed, the medicine is getting credit for that which it does not do, and indeed, if the patient is taking an alcoholic preparation, I would say that she was getting well in spite of the medicine.

Mr. T. J. Scofield: Q.—Now, doctor, are whites and falling of the womb frequent companion diseases or troubles? A.—Whites is a symptom which is common to a great variety of pelvic diseases. Any inflammation, anything that causes a congestion of the mucous membrane of the uterus will cause this discharge which is known as whites. It stimulates the flow from the glands which lie in the body of the womb, which lie in the canal and the neck of the womb, and these together will give rise to a profuse discharge in any condition in which there is a congestion of the organ, and the displacement of it causes this congestion. Now, then, discharges of this kind, just as running from the nose, scald the surfaces over which they run, and so we have the discharges from the womb running into the vagina, giving rise to more or less of scalding, and a throwing off of its outer layer of epithelium, that is, the epithelium which covers it. Just the same as you see in a child that has a catarrhal condition, that the nose will be all scalded around there.

Q.—Now, doctor, with the whites which we have been considering in connection with the prolapsus of the womb, do you ever get blood, find any traces of blood in the discharge? A.—Yes.

Q.—What is it indicative of? A.—Just as in a child who has a running of the nose, the surfaces will be scaled, they are congested, and you have bleeding, and so we have bleeding here, traces of blood will take place from the neck of the womb.

Q.—Now then, doctor, aside from prolapsus, leukorrhea (or whites) is it a symptom of any other conditions or diseases, a common symptom? A.—Yes.

Q.—Of what, doctor? A.—We have a very profuse discharge from the uterus in gonorrhea. In all inflammatory conditions of the uterus, in the displacements of the organs, that are associated with the inflammation, all these conditions give rise to discharge.

The Court:—Well, Mr. Scofield asked the significance of the appearance of blood in the discharge. A.—Well, that, as I said, is due to the extent of the inflammation, and may be a characteristic of a number of conditions, varying from an inflammation of the womb to a beginning malignant disease.

Mr. T. J. Scofield: Q.—Malignant disease? A.—Yes.

Q.—And by malignant disease you mean what, doctor? A.—Well, I mean cancer, sarcoma, chorio-epithelioma and endo-epithelioma. These are all forms of malignant disease of the womb.

Q.—Now when there are such conditions of the womb, what is the treatment or remedy for the conditions? A.—For the malignant condition?

Q.—Yes, sir. A.—The only remedy that should be considered for one moment is the removal of the entire organ involved.

Q.—Now, when should that organ be removed?

Mr. Hough:—Objected to.

The Witness: A.—The earlier—

Mr. Hough:—Objected to as incompetent, irrelevant and immaterial.

The Court:—He may answer.

To which ruling of the Court the plaintiffs, etc., excepted.

Mr. T. J. Scofield: Q.—Answer, doctor. A.—The earlier the better.

Q.—Are those malignant diseases that you have referred to progressive? A.—Always.

Q.—And as they progress what is the effect on not only the parts, but the system? A.—Well, the effect of the disease as it progresses is to first infiltrate; the cancer infiltrates the tissues. We have a hypertrophy of the cell portion of the structure.

Q.—Now, doctor, that means what? Hypertrophy means what? A.—Why, means growth.

Q.—Enlargement? A.—For instance, our hands are covered with skin. The skin has different layers. Now, the outer layer of that is what is known as the epithelial layer, and the epithelial layer of the lining membrane of the womb undergoes a proliferation, that is a multiplication of these cells. They are stimulated, they divide and multiply until they are crowded upon each other to such a degree that they interfere with the nourishment. The vessels that supply those become compressed, and the result is then that that tissue breaks down, and the ulceration takes place, and the loss of tissue. This proliferation has gone on beyond this, however, and we have consequently portions of this in which there is locked up the secretions which are broken down and degenerated. These are absorbed, producing a condition of what is known as toxemia; simply the circulation in the blood of these materials that have been just taken out, and we have as the result the patient suffering from both the great drain of this hemorrhage, the great drain of the breaking down and profuse discharge, and the poisonous effect of the absorption of these products.

Q.—That is what you mean by toxemia? A.—Yes.

Q.—It means poisoning? A.—Yes, sir.

Q.—Now then, doctor, so as to operate successfully on cases of this kind, when must that operation be performed with reference to the toxemia? A.—It must be performed before the disease has passed beyond the organ in which it originates.

Q.—In other words, locally? A.—Yes.

Q.—While it is confined locally? A.—While it is a local disease.

Q.—Now, what do you think, doctor, would be the effect of treating such a condition as that with such a medicinal solution as I have called your attention to in the hypothetical question, either at its inception or at any other time throughout the history of the trouble?

Mr. Hough:—That is objected to if the Court please, on the ground that no foundation has been laid for the asking of that question, and it is incompetent, irrelevant and immaterial.

The Court:—He may answer.

To which ruling of the Court the plaintiffs, etc., excepted.

The Witness: A.—The administration of medicines in a condition of this kind is a crime, because it simply is taking away—

Mr. Hough:—I ask that that be stricken out.

The Court:—Yes, strike out that it is a crime. Let the doctor tell what the effect would be, and the jury will determine what it is.

Mr. T. J. Scofield: Q.—Tell what effect it would have.

The Witness: A.—It is taking away—the administration of medicine in a condition of this kind, in a disease which is progressive is taking away the opportunity of that individual for life. As we have said before, the sooner the operation is done, the better the chances for the future. If the disease is carried outside of the womb, it has reached tissues beyond, which we cannot get into with the knife, and consequently the chances for the individual are gone.

A recess was here taken until 2 o'clock p. m., April 14, 1916.

(To be continued)

Correspondence

An Anaphylactic or a "Sensitin"

To the Editor:—In attempting to describe a patient who was subject to attacks resembling serum sickness after eating certain food, I said that she was sensitive to certain toxic food substances, and had been sensitized. It occurred to me that a term might be coined to describe a patient who was subject to the anaphylactic manifestations such as asthma, urticaria, tachycardia and dyspnea, just as we describe a child with a thyrosis as a *cretin*, one mentally defective as an *idiot*. To say that a patient was anaphylactic might in a loose way describe his condition or tendencies toward the exhibition of such a condition; but it does not completely fill the bill. A term like a "sensitin" might be conveniently employed to describe such a one who has been sensitized and is accordingly prone to exhibit the phenomena of anaphylaxis. ROBERT L. PITFIELD, M.D., Philadelphia.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

KERATODERMA OF THE EXTREMITIES

To the Editor:—Kindly inform me what one could use to soften dry, hard hands. The man is a stone worker handling paving blocks—perhaps seven or eight hundred per day. So far as I can learn the trouble is due to his occupation, though he says his hands never perspire and the latter trouble probably is not due to his occupation. He gives no history of venereal disease or any previous diseases and is a perfectly healthy man. J. F. R., M.D.

ANSWER.—Although this history and description are too meager to permit a diagnosis, it is possible that the man is suffering from hereditary keratoderma of the extremities. This is, however, sometimes an acquired condition from unknown causes, and occasionally from the use of arsenic. The absence of sweat on the palms especially suggests the hereditary condition. The hereditary cases are essentially a form of ichthyosis—a congenital hyperkeratosis confined to the palms and soles, or less frequently to one or the other. There is no satisfactory treatment for it. It may be improved by the use of Roentgen rays. The best palliative treatment is the use of an ointment containing from one-half to 1 dram of salicylic acid in 1 ounce of petrolatum or rose ointment, or equal parts of petrolatum and diachylon ointment. The mixture of petrolatum and diachylon ointment is the best base if one can get a well made smooth diachylon ointment. The palms should be greased with this several times in the twenty-four hours, and thoroughly greased at bedtime, and gloves worn. It should not be used to the point where it produces an irritation of the hands.

REMOVAL OF STAIN ON CORNEA—TREATMENT OF INTRA-OCULAR HEMORRHAGE

To the Editor:—1. What will remove the stain on the cornea produced by cauterization with a silver nitrate stick after anesthetizing with cocain hydrochlorid?

2. What is the treatment of intra-ocular hemorrhage following a cataract operation? S. Y. ORESA, M.D., Jolo, Sulu, P. I.

ANSWER.—1. It has been asserted that stains of the cornea from weak solutions of silver nitrate have been removed by bathing the eye in a solution of sodium thiosulphate (hyposulphite) after first cocainizing the eye to soften the epithelium, and then gently scratching the surface of the cornea. Cauterization of the cornea, however, with a stick of silver nitrate would probably extend beyond the epithelial layer and involve the corneal tissue proper, in which case a permanent scar would result. In order to reduce the density of such an opacity, various methods of treatment are employed, such as massaging the cornea with 1 per cent. yellow mercuric oxid ointment, or with so-called "brown ointment." Instillations into the conjunctival sac of a 1 per cent. solution of atropin and from 5 to 10 per cent. solution of ethyl-morphin hydrochlorid (dionin), together with hot applications to the eye, are followed by good results in some cases. It is reported that this method of treatment combined with the administration of thiosinamin, either hypodermically or by mouth, has been followed by brilliant results in certain cases. Recent improvements in the technic of corneal transplantation have made this a useful surgical procedure in some of these conditions.

2. Hemorrhage into the anterior chamber following cataract extraction is usually caused by making too large a conjunctival flap, the blood coming from the severed scleroconjunctival vessels. It may be due also to prolonged and excessive cocainization and the too early use of suprarenal preparations. In attempting to remove the blood it is better not to manipulate the lips of the wound too much, but to flood the eye with warm boric solution and coax the blood out of the eye with dabs of cotton and by means of the anterior chamber syringe. A small quantity of blood remaining in the anterior chamber soon becomes absorbed and does little harm except temporarily to obscure the intra-ocular field of operation. If, however, it becomes organized and forms one variety of after-cataract, the use of atropin is indicated to prevent posterior synechias, and ethyl-morphin hydrochlorid to promote absorption of the deposit.

LOW BLOOD PRESSURE

To the Editor:—Please give interpretation of the following low blood pressure:

A man, aged 39, height 6 feet, weight 190 pounds, has good general health except for headache, from slight to severe, which appears about every ten days. He has had these headaches ever since 10 years of age. Two grains of calomel at bedtime will clear the head by morning.

The urine is normal; he has no syphilis; he has never used alcoholic liquors, tea, coffee or tobacco.

The systolic blood pressure is 115, diastolic, 75. The patient has had low blood pressure for at least six years.

Please give diagnosis, prognosis and treatment if any is indicated.

If you print this please leave out my name and address.

E. H. B., M.D.

ANSWER.—Taking into consideration all the facts mentioned, and assuming that no other important facts have been omitted, the patient here described is probably entirely normal with the exception of periodic headache, or migraine. The systolic blood pressure, while a trifle lower than the average, is within the range of pressure seen in normal persons. The relation of systolic (115) and diastolic (75) pressure (pressure pulse 40) is also normal. The statement that for the past six years during a period of presumably good health the blood pressure has been low is important because it indicates that the present low blood pressure does not follow a previous higher pressure, in which case the recent low pressure might indicate beginning myocardial failure. In advancing myocardial weakness, the pressure pulse would also be relatively lower than in the case here described.

Other common causes of low blood pressure, such as asthenia from wasting diseases, malignancy and Addison's disease, are excluded by the statement that the patient is in otherwise good health, and that the pressure is known to have been low for at least six years.

INDICAN IN THE BLOOD

To the Editor:—Please tell me where I can find information as to indican in the blood and methods of testing for same. Kindly omit my name. M. H. B., M.D.

ANSWER.—The following are references to literature on this subject:

Haas, G.: Ueber Indikanämie, München. med. Wchnschr., 1915, lxii, 1043; abstr., THE JOURNAL, Sept. 18, 1915, p. 1064.
Dorner, G.: Diagnose der Urämie durch Indikanbestimmung im Blutserum, transudaten und Exsudaten, Deutsch. Arch. f. klin. Med., 1914, cxiii, 342; abstr., THE JOURNAL, April 4, 1914, p. 1128.
Tschertkoff, J.: Indikanämie und Urämie (Azotämie), Deutsch. med. Wchnschr., 1914, xl, 1713; abstr., THE JOURNAL, Oct. 17, 1914, p. 1430.

Dorner precipitates from 10 to 20 c.c. of blood with five times its bulk of 95 per cent. alcohol, and then filters and evaporates the alcohol. The residue is taken up in water and precipitated with 2 or 3 drops of lead acetate, and then filled up to 10 c.c., and an equal amount of Obermayer's reagent (a solution of 2 gm. ferric chlorid in 1 liter of strong hydrochloric acid) is added. The whole is then shaken out in the water bath with 1 c.c. of chloroform. Chloroform takes on a blue tint when the reaction is positive.

Tschertkoff removes the albumin from the serum by mixing with an equal bulk of a 20 per cent. solution of trichloracetic

acid. The filtrate turns pink to a yellowish brown on standing in the light if there is much indican present in the serum. Ten c.c. of the filtrate are mixed with 10 c.c. of Obermayer's reagent, and the mixture is shaken up with 3 c.c. of chloroform. The proportionate amount of indican present is indicated from the depth of the blue taken by the chloroform, as compared with a set of standard solutions of indigo.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, May 9. Sec., Dr. T. J. Stout, Brinkley; Eclectic, Little Rock, May 9. Sec., Dr. C. E. Laws, 712 Garrison Ave., Fort Smith.

GEORGIA: Atlanta and Augusta, June 1. Sec., Dr. C. T. Nolan, Marietta.

ILLINOIS: Chicago, May 4-6. Sec., Dr. C. St. Clair Drake, Springfield.

IOWA: Iowa City, June 8-10. Sec., Dr. Guilford H. Sumner, State House, Des Moines.

LOUISIANA: New Orleans, June 8-10. Sec., Dr. E. L. Leckert, 716 Macheca Bldg., New Orleans.

MASSACHUSETTS: Boston, May 9-11. Sec., Dr. Walter P. Bowers, Room 501, No. 1, Beacon St., Boston.

MICHIGAN: Detroit, June 1-3. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

NEBRASKA: Lincoln, May 8-10 and June 8-9. Sec., Dr. H. B. Cummins, Seward.

NEVADA: Carson City, May 1. Sec., Dr. Simeon L. Lee, Carson City.

NEW YORK: Albany, Buffalo, New York and Syracuse, May 16-19. Sec., Mr. Harlan H. Horner, Chief Examinations Division, Educational Bldg., Albany.

OHIO: Columbus, June 6-9. Sec., Dr. George H. Matson, State House, Columbus.

Louisiana December Report

Dr. E. L. Leckert, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, Dec. 2-4, 1915. The total number of subjects examined in was 11; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 35, of whom 28 passed and 7 failed. Six candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
University of Alabama		(1912)	75.3, 79.7
George Washington University		(1915)	81.4, 90.9
Howard University		(1912)	79
Atlanta Medical College		(1915)	89.5
Atlanta School of Medicine		(1911)	79.5
Chicago College of Med. and Surg.		(1915)	81.4
Rush Medical College		(1914)	86.8
Tulane University of Louisiana (1912) 89.7; (1913) 86; (1914) (1915) 80.9, 81.4, 83.4, 84, 87.5, 88.4, 88.6, 88.7, 88.9, 90.4.			90.9;
University of Pennsylvania		(1914)	81.3
Memphis Hosp. Medical College		(1912)	81.5
University of Tennessee		(1914)	79.5; (1915) 83.6, 90.3
University of Toronto		(1913)	88.3
	FAILED		
Flint Medical College of New Orleans		(1910)	64.3
Meharry Medical College		(1912)	67
Memphis Hospital Medical College (1908) 67.7; (1910) 73.2; (1911) 65.1; (1913) 69.			
University of Tennessee		(1914)	70.9

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Atlanta College of Phys. and Surgs.		(1906)	Georgia
State Univ. of Iowa, College of Medicine		(1902)	Minnesota
University of Louisville		(1907)	Kansas
University of Maryland		(1912)	Maryland
Meharry Medical College		(1912)	Illinois
Vanderbilt University		(1911)	Arkansas

Maryland December Report

Dr. J. M. Scott, secretary of the Board of Medical Examiners of Maryland, reports the written examination held at Baltimore, Dec. 14, 1915. The total number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 46, of whom 31 passed and 15 failed. Fourteen candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Howard University		(1914) 79, 79; (1915)	90
College of Phys. and Surgs., Baltimore		(1913) 85; (1915)	77, 78, 80, 89, 89.
Johns Hopkins University		(1914) 83; (1915)	83, 84, 87, 91
Maryland Medical College		(1913)	80
University of Maryland		(1911) 75; (1914) 78, 83, 89; (1915)	77, 78, 79, 79, 79, 85, 86, 89.
Harvard University		(1915)	94
Temple University		(1915)	77
University of Virginia		(1914)	87
Hungarian University, Budapest		(1911)	*
	FAILED		
Bennett Medical College		(1914)	†
Chicago College of Med. and Surg.		(1915)	71
University of Louisville		(1912)	†
College of Phys. and Surgs., Baltimore		(1914) †, †; (1915)	71
Maryland Medical College		(1912) †; (1913)	60, †
University of Maryland		(1914) 68; (1915)	69, 72
Medical College of Virginia		(1914) †; (1915)	68
National School of Medicine, Mexico		(1903)	56

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
George Washington University		(1908)	Wisconsin
Bennett College of Eclectic Med. and Surg.		(1887)	Michigan
Baltimore Medical College		(1896)	Penna.
College of Phys. and Surgs., Baltimore		(1893)	Virginia
Johns Hopkins University		(1912)	Illinois
University of Maryland		(1903) Pennsylvania; (1904)	W. Virginia
Washington University		(1915)	Missouri
Cornell University		(1910)	Illinois
University of Pennsylvania		(1889) (1902)	Penna.
Chattanooga Medical College		(1894)	S. Carolina
University of Virginia		(1910) Virginia); (1914)	Penna.

One candidate, a graduate of the College of Physicians and Surgeons, Baltimore, 1880, was granted a permit to register and practice by virtue of practice antedating the law.

* Licensed by special examination.
† No grade given.

Missouri December Report

Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, reports the oral and written examination held at St. Louis, Dec. 13-15, 1915. The total number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 21, of whom 15 passed and 6 failed; for one candidate the college and year of graduation was not given. Nine candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Bennett Medical College		(1915)	79
Rush Medical College		(1915)	87
University of Illinois		(1915)	84
Tulane University of Louisiana		(1915)	75
Johns Hopkins University		(1914)	75
University of Maryland		(1915)	82
Harvard University		(1915)	82
Detroit College of Medicine		(1908)	81
Barnes Medical College		(1909)	75
Homeopathic Medical College of Missouri		(1897)	75
Missouri Medical College		(1872)	75
National University of Arts and Sciences		(1915)	76
St. Louis College of Phys. and Surgs.		(1915)	75
University of West Tennessee		(1915)	75
University of Palermo		(1910)	84
	FAILED		
St. Louis College of Phys. and Surgs.		(1915)	59
Meharry Medical College		(1915)	61
University of West Tennessee		(1914) 62; (1915)	61 *

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
College of Phys. and Surgs., Chicago		(1912)	Illinois
Hahnemann Med. Coll. and Hosp., Chicago		(1896)	Kansas
Northwestern University		(1902)	Kansas
Rush Medical College		(1912)	Illinois
Drake University		(1913)	Iowa
Louisville Medical College		(1878)	Virginia
Kansas City Hahnemann Med. College		(1914)	Kansas
John A. Creighton Medical College		(1913)	Kansas
University of the City of New York		(1894)	Ohio

* No grade given.

New Hampshire December Report

Dr. W. T. Crosby, secretary of the New Hampshire State Medical Board, reports the oral and written examination held at Concord, Dec. 20-21, 1915. The total number of subjects examined in was 12; total number of questions asked, 60; percentage required to pass, 75. The total number of candidates examined was 4, including 1 osteopath, all of whom passed. Seven candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Dartmouth Medical School		(1901)	82.5, 93.5
University of Vermont		(1915)	87

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Drake University		(1907)	Iowa
Bowdoin Medical School		(1915)	Maine
Tufts College Medical School		(1903)	(1906) Mass.
Dartmouth Medical School		(1903)	Iowa
University of Vermont		(1911)	(1913) Vermont

Ohio December Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports the practical and written examination held at Columbus, Dec. 7-9, 1915. The total number of subjects examined in was 11; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 9, all of whom passed. Twenty-nine candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Howard University		(1915)	83.2
Eclectic Medical College, Cincinnati		(1915)	83.4
Ohio State University, College of Medicine		(1914)	75
Ohio State University, Coll. of Homeo. Med.		(1915)	76.2, 79.4
Western Reserve University		(1915)	83.8
Jefferson Medical College		(1915)	76.7, 83.3
Woman's Medical College of Pennsylvania		(1915)	87.5

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Chicago College of Med. and Surg.		(1914)	Iowa
College of Physicians and Surgeons, Chicago		(1903)	Illinois
Jenner Medical College		(1912)	Indiana
Rush Medical College		(1884)	Wisconsin; (1913) Illinois
Hospital College of Medicine, Louisville		(1895)	W. Virginia
Louisville Medical College		(1892)	Kentucky
Baltimore Medical College		(1896)	Pennsylvania; (1898) Vermont
Coll. of Phys. and Surgs., Baltimore		(1892)	Indiana; (1905) Vermont
Univ. of Michigan Med. School		(1913)	(1914, 2) (1915) Michigan
University of Michigan, Homeo. Med. School		(1915)	Michigan
Kansas City Medical College		(1898)	Illinois
St. Louis University		(1913)	Missouri
Eclectic Med. Coll. of the City of New York		(1896)	New York
New York Homeo. Med. College and Flower Hosp.		(1915)	New Jersey
Medical College of Ohio		(1881)	Colorado
Jefferson Medical College		(1914)	Penna.
Medico-Chirurgical College of Philadelphia		(1913)	Maryland
University of Pennsylvania		(1909)	Pennsylvania; (1914) W. Virginia
University of Pittsburgh		(1909)	(1913) Penna.
Woman's Med. Coll. of Pa.		(1886)	New York; (1913) Penna.

Virginia December Report

Dr. J. N. Barney, secretary of the Virginia State Board of Medical Examiners, reports the written examination held at Richmond, Dec. 17-20, 1915. The total number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 24, of whom 21 passed and 3 failed, including 1 osteopath. Twenty-eight candidates, including 2 osteopaths, were licensed through reciprocity. The following colleges were represented.

College	PASSED	Year Grad.	Per Cent.
George Washington University		(1912) 85; (1915)	81
Howard University		(1914) 77, 78,	82, 82
Vanderbilt University		(1915)	78
Medical College of Virginia		(1914) 87, 89; (1915) 75, 76, 78, 78, 79, 80, 82,	83, 86
University of Virginia		(1914) 86; (1915)	85, 86
	FAILED		
North Carolina Medical College		(1915)	64
Meharry Medical College		(1908)	62

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Columbian University		(1901)	Dist. Colum.
Georgetown University		(1911)	Dist. Colum.
Howard University		(1904)	Dist. Colum.
University of Georgia		(1913)	Georgia
University of Illinois		(1911)	Illinois
University of Louisville		(1909)	Kentucky
Tulane University of Louisiana		(1903)	(1913) Louisiana
Baltimore Medical College		(1903)	N. Carolina
College of Physicians and Surgeons, Baltimore		(1895)	N. Carolina
		(1914)	W. Virginia
University of Maryland		(1909)	N. Carolina
University Medical College, Kansas City		(1911)	Missouri
College of Phys. and Surgs. in the City of N. Y.		(1883)	Dist. Colum.
Leonard Medical College		(1913)	W. Virginia
North Carolina Medical College		(1905)	Georgia
Jefferson Medical College		(1888)	Penna.
Western Pennsylvania Medical College		(1907)	Penna.
Woman's Medical College of Pennsylvania		(1911)	Maryland
Lincoln Memorial University		(1914, 2)	Tennessee
Vanderbilt University		(1914)	Tennessee
Medical College of Virginia		(1893)	Ohio
University of Virginia		(1903)	Tennessee; (1913) Mississippi
University of Athens		(1906)	Florida

Book Notices

GENERAL MEDICINE. Edited by Frank Billings, M.S., M.D., Head of the Medical Department, Rush Medical College. Practical Medicine Series, Volume I. Cloth. Price, $1.50. Pp. 384. Chicago: The Year Book Publishers, 1916.

Since the death of Dr. Jerome H. Salisbury, the volume on general medicine of this series has been under the sponsorship of Dr. Frank Billings alone. The book is well prepared and covers thoroughly the subjects which it treats. Practically all of the abstracts of the work are extensive, perhaps more extensive than was formerly the case. The first abstract concerns a theory of immunization outlined by Drs. H. S. Williams and J. W. Beveridge, which, although the abstract does not so state, bears some relation to the so-called "autolysin" treatment for cancer.

The original matter in the series consists naturally of the editor's comments, of which there are about fifteen in the book of 370 pages. Some of these are unusually good and especially worthy of note; for example, in the consideration of the treatment of pneumonia, it is stated that:

(If antigens of pneumococci are used in pneumonia they should be homologous with the germ invading the patient. Experimental research and clinical experience with pneumococcus vaccines in pneumonia do not justify their use. Possibly an antigen made of the nontoxic remnant of the pneumococcus may prove useful, as shown by the reports of E. C. Rosenow.—Ed.)

In his consideration of an article by Dr. F. M. Allen on fasting in diabetes, Dr. Billings says:

(In the service of the Editor in the Presbyterian Hospital, Chicago, in collaboration with Dr. R. T. Woodyatt, the treatment of diabetes by a preliminary absolute fasting period, until the urine is sugar-free, has been followed for nine years. We have fasted patients for as long as eight days. The patient is encouraged to drink water freely. Acidosis usually diminishes rapidly. One may give whisky or sour wine as fuel during the fasting period. Soda bicarbonate may also be used in persistent acidosis. All that is said by Allen and Joslin concerning the treatment we can affirm.—Ed.)

THE EYES OF OUR CHILDREN. By N. Bishop Harman, M.A., M.B. Cloth. Price, 1 shilling. Pp. 119, with 32 illustrations. London: Methuen & Co., 1916.

This small volume, one of a series of eight which make up "Methuen's Health Series," deals concisely with those defects of the eyes most commonly observed during childhood. The author has had an opportunity of examining the eyes of many thousands of schoolchildren, and is therefore ably qualified to advise intelligently on the best methods of teaching children afflicted with the various forms of refractive errors, as well as to point out the importance of proper illumination of the schoolroom. This is done in language as free as possible from technical terms, which should make the book a most helpful one for parents, teachers, and all who are interested in conserving the vision of the growing child. In future editions the author should add a chapter on the prevailing pernicious custom of having the surroundings of the new-born babe, even including the uniform of the nurse, in "spotless white," the symbol of purity, perhaps, but most trying to the delicate eye structures of the infant.

YOUR BABY. A Guide for Young Mothers. By Edith B. Lowry, M.D. Cloth. Price, $1. Pp. 254. Chicago: Forbes & Co., 1915.

This guide gives an adequate description of the measures to be taken by the mother with a view to her own and her offspring's welfare. It is clearly expressed, well arranged, and provided with an excellent index.

PERSONAL HYGIENE. By Frank Overton, A.M., M.D., Sanitary Supervisor, New York State Department of Health. Cloth. Price, 40 cents. Pp. 240, with illustrations. New York: American Book Company, 1915.

GENERAL HYGIENE. By Frank Overton, A.M., M.D., Sanitary Supervisor, New York State Department of Health. Cloth. Price, 60 cents. Pp. 382, with illustrations. New York: American Book Company, 1915.

The first of these two works is a manual of elementary hygiene, including the essentials of anatomy and physiology, intended for the use of young pupils. Special stress is laid on such knowledge as may be usefully applied in daily life. The treatment is adequate and entirely modern, the language simple and clear. An interesting point is made of the casual

relation which often exists between the conventions of good manners and the requirements of personal hygiene.

The second volume, notwithstanding the difference in title, deals with substantially the same subject as the first, though in a more detailed manner. It is as admirably adapted for older and more advanced pupils as is the smaller work for their younger brothers and sisters.

Miscellany

Control of Hookworm Disease

The work done by the Pacific Mail Steamship Company in the control and eradication of pellagra is described by Dr. Herbert Gunn in the *Journal of Sociologic Medicine*, February, 1916. The plan adopted was to examine all cases in Hong Kong and to treat those found infected by the ship surgeon while en route. Thymol was used, the dose for an adult being 20 grains hourly for four doses, or 80 grains during the morning. One and one-half ounces of castor oil were given the night preceding the course of treatment, and 1 ounce of Epsom salt two hours before, and again one hour after, the administration of the thymol. Castor oil was repeated the night preceding the next course of treatment, but was not given on a day during which thymol had been taken. After two courses or four days' treatment, examination of the stool was made, and patients found cured were dismissed from further treatment or given an additional course of two days. In the uncured cases the courses of treatment and the reexaminations were continued until San Francisco was reached. Over 500 patients had been treated with no untoward results in any. Over 60 per cent. of the Chinese examined in Hong Kong were found to harbor hookworm. The total number of cases treated aboard ship was 1,776. The number not cured on arrival at San Francisco, was fifty-five, or 3 per cent. Some patients took as much as 1,720 grains of thymol in a period of twenty-six days.

In Gunn's experience there is practically no effect on the urine in the great majority of cases, and in the others it is only transitory. The greatest effect is on the intestinal tract, and even here it is as a rule but slight and transitory. Loss of weight from the repeated purging was the only ill effect that the majority of patients showed after a strenuous course of treatment. Of the 1,776 patients treated, one died of uremia. He had suffered from kidney disease four years previously. There were several cases of collapse, but none were serious and all these patients resumed treatment later, that is, on subsequent days. Vomiting frequently occurred, as often from the salts as from the thymol. In one or two patients the drug was discontinued on this account, and chloroform and eucalyptus used. In one patient an intestinal hemorrhage was reported, which was not serious, and a few days later treatment was resumed without ill effects.

China Medical Association Meets

The first meeting of the National Medical Association of China was held in Shanghai, February 7 to 12, under the presidency of Dr. F. C. Yen, surgeon in chief of the Hunan-Yale Hospital, Changsha. Fifty-five delegates were present, including representatives from the Chinese army and navy, and Chinese was adopted as the official language of the conference. Dr. Yen suggested the advisability of inviting foreign physicians to become members; the opening of a central office at Shanghai or Peking and the publication of the association's journal bimonthly in Chinese with an occasional English edition. In a lecture the same evening, Dr. Yen spoke on "The Duties of the Medical Profession" and devoted considerable time to the exposure of the worthless and harmfulness of "patent medicines." On the second day the chief address was given by Dr. Arthur Stanley, health officer of Shanghai on "Quack Medicines." On the third day a paper by Dr. H. T. Chiang, Tayek, on "The Status of Medical Practitioners" was read by Dr. W. P. Chung in which the medical practitioners of China were classified as first, the old fashioned native physicians whose only diploma was his sign board; second, nurses and assistants who had been trained in mission hospitals who are little better than the first group; third, graduates from union medical schools who are well trained, but not versed in the scientific side of medicine; fourth, graduates from Japan; and fifth, physicians properly qualified in the colleges of Europe and America. He urged the early establishment of a central medical board for registration of all practitioners and that the government subsidize the existing medical colleges in China. In the evening, Dr. W. W. Peter, secretary of the Public Health Council of the China Missionary Medical Association, gave a lecture on "Health as a Factor in National Strength." A paper by Dr. S. P. Chen of the Peking Isolation Hospital on "The Reorganization of Schools," in which he proposed the establishment of a central board of control, the reorganization of the existing medical schools, the establishment of well equipped hospitals and provision for postgraduate study, was read by Dr. Abel Tang. On the last day of the session the following ten physicians were elected first honorary members of the association: Chou Hsueh-hsi, minister of finance; Chu Chi-chien, minister of the interior; Dr. Arthur Stanley, health officer of Shanghai; Dr. Dugald Christis of the Medical College Hospital at Mukden; Dr. Duncan Main, Hangchow; Dr. Douglas Gray, physician to the British Legation at Peking; Dr. H. S. Houghton, Harvard Medical School, Shanghai; Dr. W. W. Peter of the Public Health Council of the Missionary Medical Association; Dr. E. H. Hume of the Hunan-Yale Hospital, Changsha, and Dr. G. A. Morrison, advisor to Yuan Shih-kai.

Australia and Yellow Fever

Under this title the Quarantine Service of the Commonwealth of Australia in Service Publication 6 discusses yellow fever, the possibility of its introduction into Australia as the result of changes in routes of ocean travel due to the opening of the Panama Canal, and the conditions favoring its existence in Australia once it gained a foothold. Dr. J. H. L. Cumpston, director of quarantine, discusses foci of infection on the Pacific coast of Central and South America, in the Caribbean region and in the United States. He believes, with other observers, that the stringent regulations of the health and quarantine authorities in the Panama Canal Zone make it an unlikely source of infection. The towns on the coast of Mexico, Central America and South America as far south as Chile, particularly Guayaquil, where the disease is still endemic, are believed to be constant sources of trouble which may reach to Australia. A number of places on the Caribbean Sea are also to be regarded as foci. Even New Orleans, in the opinion of Cumpston, who adopts that of Major James, who visited that city in 1912 and made a report in the *Indian Journal of Medical Research*, October, 1913, on "The Protection of India from Yellow Fever," is not exempted as a focus of yellow fever dangerous to shipping to the Orient. Major James says that though great improvement in conditions had been made in New Orleans since the epidemic of yellow fever in 1905, when 437 deaths and 3,403 cases occurred, still, in 1912, at the time of his visit, on account of lack of funds and other reasons, no continuous, systematic preventive work had been kept up, and he had been informed by officials that during the summer months mosquitoes, including the yellow fever mosquito, were plentiful. With such conditions in a highly organized community in the United States, it was felt that there were great dangers from other less well protected places in the islands of the Caribbean Sea and the northern and Atlantic coasts of South America. The danger of the introduction of the disease into Australia from the endemic foci, it is said, must be recognized and precautionary measures taken to prevent it. Among these measures would be the stationing of sanitarians as outposts at Panama and in the Pacific Islands for observation and transmission to the home country of intelligence concerning outbreaks of the disease. In Australia efforts should be directed to the reduction of mosquito sources.

Medicolegal

Care and Skill Required of Surgeons—Use of Photographs

(Pace vs. Cochran (Ga.), 86 S. E. R. 934)

The Supreme Court of Georgia, in reversing, for errors in the trial, a judgment obtained by the plaintiff on account of the alleged negligence of the defendant in setting a broken arm, says that the civil code of the state lays down the rule that a person professing to practice surgery for compensation must bring to the exercise of his profession a reasonable degree of care and skill, and that any injury resulting from a want of such care and skill will be a tort for which a recovery may be had. This briefly states the standard by which the conduct of a person claimed to have been guilty of malpractice as a surgeon may be tested. In determining the question of reasonable care and skill, the jury may consider the place of the operation, the circumstances surrounding it, the situation of the defendant with respect to the operation, and all the facts and circumstances which may be shown by the evidence and which may throw light on the ultimate question. Did the defendant, or did he not, use reasonable care and skill in the performance of the operation? If expert evidence is introduced tending to show the recognized method of performing an operation, or the manner in which it should be performed, it may be considered along with other evidence throwing light on the question. But the court prefers the standard required by the code to a comparison with an "average" surgeon. Moreover, in formulating an instruction for the jury, the court thinks it best not to state that the skill of a surgeon includes an ability to perform the operation in an "approved" way. When employed in a charge to the jury, this expression might raise a question in their minds as to the meaning of the word "approved," and as to by whom the approval should be made.

It was error to overrule a ground of demurrer which sought to have a photograph "of the present condition" of the injured member stricken and removed from the plaintiff's petition. Whether the photograph was proved genuine and correct or not, the court does not think it had any place in the petition. It was no part of the basis of the suit for damages, and should not be attached to the petition as a part thereof. But, on the trial of a case involving malpractice of medicine and surgery, a photograph of the wound, alleged to have been caused by the malpractice, which has been proved to be a correct photograph, is admissible in evidence, as tending to show the details and extent of the injury, in connection with other evidence tending to show that the condition of the injured member at the time when the photograph was taken resulted from the alleged tort or malpractice.

Employment of Surgeon by Station Master Followed by Attempted Revocation

(Vandalia Railroad Co. vs. Bryan (Ind.), 110 N. E. R. 218)

The Appellate Court of Indiana, Division No. 2, reverses a judgment for $350 obtained by plaintiff Bryan for services rendered to a man injured by one of the defendant's trains, because there was no evidence from which the value of the emergency first aid services rendered by the plaintiff and two other physicians whom he called in to aid him could be ascertained. The court says that the evidence showed that, as the company's surgeon was not in town, its station master engaged the plaintiff to render what aid was necessary. The plaintiff took the man to a hospital, found his right leg badly lacerated, hanging by shreds, and his left foot almost crushed off, so that amputation was necessary. He called to his assistance the other two physicians; they made a thorough examination, cut off the hanging parts and controlled the hemorrhage, decided that amputation was necessary, and planned for such operation. Shortly after that the station master called the plaintiff over the telephone and told him that the company had found that the man was a trespasser, it was not liable for his injury, and would not be responsible for any further medical services rendered to him. The physicians continued attention through the night, giving treatments to overcome the shock, and the next morning amputated the right leg and left foot. The plaintiff attended the man for about six weeks, making about 100 visits, and the other physicians made in that time twenty or thirty visits, the reasonable value of all the services being from $1,000 to $1,200. The physicians on cross-examination testified that after the station master revoked his authority, other competent physicians and surgeons could have taken the case from that time and rendered the attention which they gave. The court holds that the station master had authority to bind the company for emergency services, but that his authority expired when he came into communication with his superior officers. The question was, How far could the plaintiff go under the contract previously made with the station master? The plaintiff contended that all the services were necessarily incident to the first employment, and in that sense were undertaken before the revocation. The court holds that the company was liable to the plaintiff for emergency first aid services rendered, and what should constitute first aid emergency services was a question of fact for the jury. It seems to the court that all of the better reasoned cases have limited the recovery of physicians employed as was the plaintiff in this case to what should be termed as emergency or first aid services, and no more; and in all such cases an emergency exists in which the exigencies are of so pressing a nature that immediate action must be taken to relieve the injured person from his present suffering, or preserve his life, and when such services have been rendered, the emergency authorizing the original employment ceases to exist, and there is no further liability for medical services unless such further liability arises by reason of some additional contractual relation between the parties. It is the inability of the injured person to obtain medical aid for himself which gives rise to the emergency. If the condition of the patient and the emergency of the case made additional surgical and medical aid absolutely necessary, the court thinks that the physician engaged by the company's servant to perform necessary services would be justified in calling the necessary additional aid, and that in this action he could recover for their services as well as for his own. The fact that the injured man was a trespasser had no bearing on the authority possessed by the station master when he engaged the plaintiff. It was not for the plaintiff, in the emergency, to investigate whether the company was liable to the man before undertaking to aid him.

Prescriptions for Unreasonable Amounts of Narcotic Drugs

(United States vs. Curtis (U. S.), 229 Fed. R. 288)

The United States District Court, Northern District of New York, in overruling a demurrer to an indictment charging a dealer with having violated the Harrison Narcotic Law in selling to a consumer 100 quarter-grain morphin sulphate tablets, on the prescription of a physician which did not indicate that the tablets were for the treatment of an addict or habitué to effect a cure, or for a patient suffering from an incurable or chronic disease, and in selling to the consumer 10,900 such tablets, under 109 such prescriptions issued by a physician, holds that the indictment charged the commission of an indictable offense under the provisions of the law. The court says that it is quite true that the law does not prescribe or limit in terms the amount in weight or quantity of opium or coca leaves, or any compound, manufacture, salt, derivative, or preparation thereof, which may be sold, dispensed or distributed by a dealer to a consumer under and in pursuance of a written prescription issued by a physician registered under the act. It is also true that the act does not in terms limit in weight or quantity the amount of such drugs which such a physician may prescribe in the course of his professional practice only. But it seems plain to the court that it was the purpose of Congress to limit the quantity of these drugs that may be sold or dispensed by a dealer under and pursuant to a written order issued by a physician, and to limit the amount and quantity to such an amount and quantity as is or ought to be called for by a prescription issued by the physician "in the course of his professional practice only." Is it reasonable or probable

that Congress intended that physicians may prescribe unlimited quantities and that dealers may fill such prescriptions? A prescription, even if issued by a physician, which on its face calls for an unusually and unreasonably large quantity of the drug is fraudulent, of course, as it bears internal evidence that it is not issued in good faith and that it is not a prescription. The court is of the opinion, and holds, that a physician who issues a prescription for an unusually large amount of these drugs, or of any one of them, which prescription shows on its face that the quantity prescribed is unreasonable and unusual, is guilty of an offense under the law, unless such prescription indicates the necessity therefor; and the dealer who fills such a prescription or order issued by a physician is guilty of an offense under the law. If not so, then physicians may prescribe unlimited quantities, and druggists may fill the prescriptions with impunity, and thus many of the evils sought to be remedied by the enactment of the so-called Harrison Narcotic Law will be augmented, instead of being remedied.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, DETROIT, JUNE 12-16.

Alpha Omega Alpha Society, Detroit, June 12.
American Academy of Medicine, Detroit, June 9-12.
American Assn. of Genito-Urinary Surgs., Washington, D. C., May 9-10.
American Association of Anesthetists, Detroit, June 12.
American Association of Path. and Bact., Washington, D. C., May 9-11.
American Climatological and Clin. Assn., Washington, D. C., May 9-11.
American Dermatological Association, Washington, D. C., May 8-10.
American Gastro-Enterological Association, Washington, D. C., May 8-9.
American Gynecological Society, Washington, D. C., May 9-11.
American Laryngological Association, Washington, D. C., May 9-11.
Amer. Laryn., Rhin. and Otol., White Sulphur Sprgs., W. Va., May 5-6.
American Neurological Association, Washington, D. C., May 8-10.
American Ophthalmological Society, Washington, D. C., May 9-11.
American Orthopedic Association, Washington, D. C., May 8-11.
American Otological Society, Washington, D. C., May 9-10.
American Pediatric Society, Washington, D. C., May 8-10.
American Proctologic Society, Detroit, June 12.
American Society of Tropical Medicine, Washington, D. C., May 9-11.
American Surgical Association, Washington, D. C., May 9-11.
American Therapeutic Society, Detroit, June 9-10.
Arkansas Medical Society, Texarkana, May 2-4.
Association of American Physicians, Washington, D. C., May 9-11.
Conference of State and Prov. Boards of N. A., Washington, May 16-17.
Cong. Am. Phys. and Surgs. of No. Am., Washington, D. C., May 9-10.
Connecticut State Medical Society, Bridgeport, May 17-18.
Florida Medical Association, Arcadia, May 10-12.
Illinois State Medical Society, Champaign, May 16-18.
Iowa State Medical Society, Davenport, May 10-12.
Kansas Medical Society, Topeka, May 3-5.
Maine Medical Association, Portland, June 7-8.
Massachusetts Medical Society, Boston, June 6-7.
Mississippi State Medical Association, Greenville, May 9-11.
Missouri State Medical Association, Excelsior Springs, May 8-10.
National Assn. for Study and Prev. of Tuberc., Wash., D. C., May 11-12.
National Association for Study of Epilepsy, Detroit, June 16.
Nebraska State Medical Association, Omaha, May 23-25.
New Hampshire Medical Society, Concord, May 16.
New Jersey Medical Society, Spring Lake, June 20-22.
New York State Medical Society, Saratoga Springs, May 16.
North Dakota State Medical Association, Devils Lake, May 10-11.
Ohio State Medical Association, Cleveland, May 17-19.
Oklahoma State Medical Association, Oklahoma City, May 9-11.
Rhode Island Medical Society, Providence, June 1.
South Dakota State Medical Association, Aberdeen, May 23-25.
Texas State Medical Association, Galveston, May 9-11.
West Virginia State Medical Association, Wheeling, May 16-18.

NEW YORK ACADEMY OF MEDICINE

Meeting held April 6, 1916.

The President, DR. WALTER B. JAMES, in the Chair

The Investigation of the Influence of Alcohol on Man, with Special Reference to Psychologic Effects

DR. FRANCIS G. BENEDICT, Boston: The Nutrition Laboratory of the Carnegie Institution has organized and initiated an exhaustive experimental study of the physiologic consequences of the ingestion of small doses of ethyl alcohol in man. The first year's work under the psychologic part of the plan was devoted to an investigation of the effects of alcohol on a selected group of interrelated processes covering the fundamental neural activities at various levels of the cerebrospinal system, from the simplest reflexes of the lumbar cord to the most complex cortical arcs that could be accurately measured by available laboratory technics. The selection of the particular group of neuromuscular processes for measurement was determined by the following experimental demands: (1) the systemic demand for coordinate data covering as many as possible of the fundamental psychophysical operations; (2) the interpretive demand for the least possible inclusion of unknown and uncontrolled factors; (3) the practical demand for natural reaction forms which would be comparable in a large number of individuals without special practice, and would show relatively little practice effect as a result of the experimental repetition, and (4) the technical demand for dependable quantitative methods of stimulation and registration. Of the simple arcs available for experimentation, the patellar reflex and the protective lid reflex were chosen. The measurements of these reflexes included data concerning their latency, the extent of muscle contraction, and the relative duration of the refractory phase. Of the more complex cortical arcs the following were selected: (1) eye reactions to sudden peripheral stimuli; (2) speech reactions to visual word stimuli, and (3) free associations. Sensory changes, coordination, and the reciprocal innervation of the antagonistic muscles of the middle finger were also observed, and finally pulse records were taken either continuously or at homologous points in the various experimental processes.

The subjects consisted of a group of college graduates who were very moderate users of alcohol, and a smaller group of outpatients in the psychopathic hospital who had been under treatment for delirium tremens. The normal base lines in all cases included two normal experimental days for each subject and for each kind of experiment. One normal day came before and one after the experimental days when alcohol was administered. In addition a normal of the day was recorded for each experimental process on the days when alcohol was given. Two doses of alcohol were given, one containing approximately 30 c.c. and the other 45 c.c. of absolute alcohol. All the measurements showed more or less rhythmic variations. The results show two particularly significant marks of reliability: 1. Similar processes are similarly affected and in similar degree. 2. In general, the larger the dose of alcohol, the greater the experimental effect. In the patellar reflex, alcohol increased the latent time 10 per cent., while it decreased the amount of quadriceps thickening 46 per cent. In the protective lid reflex it increased the latent time 7 per cent., while it decreased the extent of lid movement 19 per cent. It increased the latent time of the eye reactions 5 per cent., and that of the speech reactions 3 per cent. Memory and the free associations were only slightly affected. Sensitivity to faradic stimulation decreased 14 per cent. after the ingestion of alcohol. The number of finger movements decreased 9 per cent., and the velocity of eye movements decreased 11 per cent. as a consequence of the ingestion of alcohol. Under all experimental conditions, alcohol produced a relative acceleration of the pulse, but in only a few cases with a large dose did this relative acceleration become a positive acceleration, so that the pulse rate in the periods subsequent to the ingestion of alcohol was faster than during the normal day; but in practically every instance alcohol prevented the regular pulse rate retardation that accompanied the successive periods of mental and physical work on normal days. This relative acceleration averaged approximately 3 per cent.

We made an effort to determine which of the antagonistic heart regulating mechanisms was responsible for the relative acceleration. There was evidence of the paralysis of the inhibitor, but it was probable that various natural and experimental conditions might be found which would shift the preponderance of paralysis to the accelerating mechanism. The small amount of change, its purely relative character, and the probability that other regulating mechanisms were affected doubtless gave the conditions for the confusion of the scientific traditions concerning the effect of alcohol on the pulse rate. The general neuromuscular depression may be regarded as presumptive evidence of the effect of alcohol

on organic efficiency. In none of our data is there any indication of a pure facilitation effect of alcohol. Not only did we find no facilitation of the motor processes, but also the depression of the simplest forms in the finger and eye movements seemed to be one of the most characteristic effects of alcohol. It is exactly these effects which correlated most closely with the average of all the effects for the several subjects. Practically it seems to follow that these processes may serve as a readily accessible indicator of individual susceptibility to alcohol. Theoretically it seems to follow that the effect on the motor coordinations indicates a central tendency of alcohol.

DISCUSSION

DR. C. E. A. WINSLOW, New Haven, Conn.: It is difficult to consider the evidence with reference to alcohol on its merits, since each new fact is likely to be modified by a preconceived picture, of which the center is either the Demon Rum or the genial god Dionysos. Our treatment of alcohol as a habit forming drug is complicated by the fact that there are not only the confirmed addicts to be considered, but those who give way only occasionally to excess, and also the steady, moderate drinkers. If there were signs of opium parlors on every street corner, or if hypodermics were passed at the close of dinner parties, our views of these drugs would be similarly complicated by a century-old atmosphere of respectability, although the danger of habit formation would be quantitatively greater than in the case of alcohol. It is unnecessary to emphasize to physicians the relation of steady drinking to diseases of the liver, kidneys and to mental disease, and its unfavorable influence on the prognosis of such infections as pneumonia. Alcohol in large and continuous doses produces more or less serious pathologic effects, but there are also to be considered the many secondary effects of alcohol in connection with the causes of disease and death. Alcohol plays a large part in automobile and factory accidents. Its relation to venereal disease is far reaching and sinister. The taking of alcohol with meals tends to overeating with its resultant alimentary disturbances and autointoxication. Investigations of English and Scottish life insurance companies, and more recently the medico-actuarial investigation conducted by Arthur Hunter, have measured the net effect of alcohol. The latter study shows a mortality of 86 per cent. in excess of normal among steady users of 2 ounces or more of alcohol a day; 74 per cent. among those who have committed alcoholic excesses within two years; from 32 to 35 per cent. among reformed persons of formerly intemperate habits, and 18 per cent. among moderate steady drinkers (lower limit two glasses of beer or one glass of whisky a day). As to the effect of alcohol on efficiency it may be said that no man about to undertake severe, exact mental work would take a drink of whisky beforehand. When one wants cool, concentrated energy he lays drink aside. The same thing has been clearly indicated by the changed attitude of European nations toward alcohol during the war. No one method of fighting against alcohol can be endorsed, and there are grave criticisms of many of the methods that have been suggested. The best way of restricting the use of alcohol is a problem in itself, but from the standpoint of public health and efficiency that way should be found. Public health departments are not limiting themselves to the prevention of specific diseases and of death, but are developing their work along hygienic lines; not alone in warding off epidemics, but in building up health and vigor. Whether or not this country keeps out of the war with Europe, the world's stage is swept for a conflict of ideals, standards and civilizations. The old ways will no longer serve. There must be national efficiency in a sense never dreamed of before. Alcohol is a serious danger to many, and on the whole a drag and a detriment which takes the keen edge off of national effectiveness. The best way of dealing with the problem should be earnestly sought.

DR. CHARLES STOCKARD: We have been studying the effect of alcohol on the developing embryo and on the descendants of animals treated with alcohol. The first experiments were made on the eggs of fish and of hens. The eggs of the former were placed in a weak solution of alcohol and water, and the eggs never developed normally, the abnormalities being confined chiefly to the central nervous system; 90 per cent. had eye abnormalities. Hen's eggs, if placed over a funnel containing alcohol fumes for a few hours before incubation, developed abnormal chicks. The question whether the embryo developing within the body of the mother can be affected by the mother being treated with alcohol was solved by experiments on guinea-pigs. Experiments were also made to determine the effect on the offspring of the father being treated with alcohol so as to change his cells. The effect was watched for five generations, and comparisons were made with the offspring of the same strain which were not treated with alcohol. A father treated with alcohol was mated with an untreated mother, and vice versa. There resulted an abnormal number of abortions, still births and abnormalities, and there was much abnormal sterility among the children, grandchildren, and even great grandchildren, of alcoholized ancestors. The worst complications resulted from the inbreeding of animals poisoned with alcohol; they produced dwarfs, deformities, paralysis agitans, cyclopean monsters and blindness. Fifteen per cent. of the inbred descendants of alcoholics were defectives; some had no eyeballs, others had only one eye, the optic nerve, optic tract and optic fibers being also lacking. We do not claim that these experiments can be transferred to man; they were made to see if it is possible to control embryonic development, whether defects due to alcohol can be transmitted by male or female or both, and it has been shown that such an effect is possible, whether or not it occurs in man.

DR. BERNARD SACHS: A few months ago we discussed syphilis in its relations to disease, and have emphasized the fact that both these poisons have an effect on the central nervous system. As to alcohol, it is unfortunate that it is not possible through laboratory experimentation to discern, as in syphilis, the early effects on the nervous system. We have no way of determining the effect of alcohol unless the disease has reached a stage where positive symptoms appear. In view of the statements made by Dr. Benedict, it is possible that some day the reaction time of alcoholic individuals may give early warning of impending changes. There is one thing about alcohol which makes it in a sense worse than syphilis; syphilis begins as an exudative process, whereas alcohol incites a destructive process, and produces degenerative disease more effectively and chronically than syphilis, and the effects are as noticeable from the long continued use of moderate doses as from the occasional use of excessive doses. Another unfavorable point is that the signs and symptoms resulting from the use of alcohol persist long after the habit ceases. Alcohol is indulged in to such an extent because of the need of occasional stimulation. It would be well if it were more generally known that the best substitute for alcohol is coffee. On the whole, coffee is not injurious unless taken to excess. It is to be regretted that its value as a stimulant has been greatly underestimated.

DR. HAVEN EMERSON: Though impartiality has been advised in the discussion and the analysis of the facts presented by the laboratory experts, it is difficult for any physician to be impartial if he has treated in homes, dispensaries or hospitals the victims of alcohol. When the title of the Bureau of Infectious Diseases was changed to the Bureau of Preventable Diseases, it indicated a change in the point of view which has been going on through the country in the interests of public health. If one considers the possibility of the prevention of congenital defects of infants due to the use of alcohol by the parents, one must admit that it is within the sphere of public health officials to take up the propaganda against alcohol. It is admitted that the death from infectious diseases is higher among alcoholics; infectious diseases are more readily acquired by alcoholics, and recovery occurs in a smaller ratio among them. This is strikingly illustrated in pneumonia, typhoid fever and septic conditions. The incidence of disease due to alcohol itself, and the results of its use in diseases of the central nervous system and of the assimilative organs, justifies an energetic campaign against its use. The question of economic efficiency cannot be considered as a part of the public health, yet the attitude of

large employers of labor indicates that they are in accord with all efforts to diminish the use of alcohol. At the present time the educational method seems to be the one which will finally prevail; permanent results cannot be accomplished by legislation or police enforcement. The country would respond to educational enlightenment, and the demand for alcohol would diminish as the knowledge of its dangers increases.

DR. FREDERICK S. LEE: My study of the effect of alcohol on isolated muscle has yielded positive results. The action of alcohol on muscle varies with the relative quantity of the drug employed. In small quantities ethyl alcohol does not appear to exert any action on the frog's muscle. In medium quantity it exerts a favorable action, which is characterized by a quickening of the contraction, a quickening of the relaxation, a power of making a larger number of contractions and of performing a larger amount of work in a given time, and by a delay in fatigue. This action is exerted directly on the muscle protoplasm itself. In large quantity, ethyl alcohol exerts on a frog's muscle an unfavorable action, which is in general the reverse of that caused by medium quantities of the drug. In moderate quantities, ethyl alcohol when administered to frogs is capable of augmenting the working power of the skeletal muscles.

DR. JOHN H. KELLOGG, Battle Creek, Mich.: From my observations in connection with settlement work in Chicago, and from my experience with chronic invalids from the pernicious effects of alcohol at the Battle Creek Sanitarium, I feel that it will eventually be proved that it is entirely possible to dispense with alcohol as a drug, as the result sought by its use can be better obtained in other ways. The great increase in the chronic diseases seen in this country can to a large extent be attributed to alcohol, especially the increase in diseases of the heart, blood vessels, etc. Dr. Lee's experiments do not seem to have a direct bearing on the use of alcohol by human beings, as they show the effect of alcohol on muscle only, and not on the nerve centers and on the nerves themselves.

DR. ABRAHAM JACOBI: So many diverse opinions have been expressed, that one or two more will not be amiss. My experience in over fifty years in practice gives strength to my positive assertion that there is no remedy to equal alcohol in cases of mixed infection. There are septic diseases which cannot be treated or cured unless alcohol is given in large quantities. Mixed infections in diphtheria cannot be cured by antitoxin, but treated with large doses of alcohol, the patients may be saved. I have seen many such living, dying, or moribund patients since 1858 who have recovered through taking whisky; they were not guinea-pigs, but human beings.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

April, CLI, No. 4, pp. 469-624

1 *Congenital and Acquired Enuresis From Spinal Lesion. (*a*) Myelodysplasia. (*b*) Stretching of Cauda Equina. W. G. Spiller, Philadelphia.
2 *Gelatinoid Carcinoma (Morbus Gelatinosus) of Peritoneum. T. McCrae and W. M. L. Coplin, Philadelphia.
3 Clinical Relations of Gravity, Posture and Circulation. H. Sewall, Denver.
4 *Fasting Treatment of Diabetes Mellitus, With Special Reference to Acidosis. E. Stillman, New York.
5 Ear Tests of Bárány in Locating Cerebellar and Other Encephalic Lesions. B. A. Randall and I. H. Jones, Philadelphia.
6 *Further Experimentation in Animals With Monilia Commonly Found in Sprue. B. K. Ashford, Porto Rico.
7 Present Status of Electrocardiographic Method in Clinical Medicine. A. E. Cohn, New York.
8 Occurrence of Miliary Tuberculosis of Liver in Course of Pulmonary Tuberculosis. R. G. Torrey, Philadelphia.
9 Analysis of One Hundred and Thirty-Four Cases of Bacteriemia. M. Warren and W. W. Herrick, New York.
10 Diabetes in China. A. C. Reed, Changsha, China.

1. **Enuresis from Spinal Lesion.**—That the enuresis of older children and adults, not necessarily merely nocturnal, may occasionally be a sign of spina bifida occulta, and may exist without other signs or with few signs of this defect, is shown by the cases cited by Spiller. He says that examination of the sacrum and lower lumbar vertebrae by means of the Roentgen rays will readily determine a defect in these parts if it exist, and such a defect should warrant the physician in assuming that much exercise of the lower limbs might be followed by muscular palsy in the peroneal nerve supply. This is one of the cases reported by Spiller. In the second case, the boy had had enuresis for years. A roentgenogram of the sacrum and lower lumbar vertebrae was made. This patient gave no appearance of spina bifida to the sight or touch of the examiner, except some tenderness on deep pressure over the sacrum, but the Roentgen rays showed a serious defect of the sacrum and lower lumbar vertebrae. The paralysis that developed from the comparatively light exercise of a bicycle ride of an hour and a half might have been avoided had the spina bifida occulta been suspected from the persistent enuresis.

2. **Gelatinoid Carcinoma of Peritoneum.**—The main facts in the case cited by McCrae and Coplin are as follows: A male, aged 42 years, with chronic ascites for four years and fifty-seven successful tappings. For three years the fluid showed no peculiar features and then gelatinous colloid-like material appeared and was present for a year until death. During the greater part of this time the patient's general condition was excellent. The liver and spleen showed enlargement at one time and later became reduced in size. Shortly before death many hard, rounded, movable masses were felt in the abdomen. There was intractable diarrhea for the last weeks of life. The gelatinoid material was a mucin-like substance, much like the material known as serosa mucin. It contained 11.5 per cent. of nitrogen and 0.8 per cent. of sulphur. The necropsy did not throw much light on the course of events.

4. **Fasting Treatment of Diabetes Mellitus.**—Twenty-two diabetics were studied by Stillman with reference to the effect of prolonged fasting on acidosis. They were classified into four groups, based on the type of response to prolonged fasting as indicated by the degree of blood alkalinity. The result obtained showed that when the degree of acidosis present is determined daily all cases of diabetes may be treated by the fasting method safely and with benefit.

6. **Experimentation in Animals with Monilia.**—An apparently new species of monilia has been recovered by Ashford from nearly 100 cases of sprue. From careful cultural and morphologic investigations it is a pathogen for current laboratory animals by hypodermic inoculation. When recovered from a patient with sprue and promptly injected into certain laboratory animals it generally produces their rapid death from a mycotic septicemia. When grown for a long time and frequently transplanted the same organism which rapidly killed soon after isolation from a sprue patient seems to partially or completely lose its virulence. This virulence may be recovered by passage through susceptible animals, and even reach such a point as to sicken or kill these animals by continued feeding.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

April, LXXIII, No. 4, pp. 577-768

11 Obstetric or Brachial Birth Palsy. Report of Cases. T. T. Thomas, Philadelphia.
12 Report on Four Cases of Ruptured Pelvis. W. A. Morgan, New York.
13 Neurasthenia in Relation to Gynecology; Report of Cases. R. S. Morton, New York.
14 Relation of Internal Secretions to Neurasthenia in Women. H. R. Harrower, Los Angeles, Calif.
15 Relationship Between Neurasthenia and Pelvic Disease. G. Gibson, Brooklyn.
16 Critique on Inefficiency and Neglect of Surgery of Cervix Uteri. J. W. Bovée, Washington, D. C.
17 *Control of Disagreeable Symptoms of Surgical Menopause by Corpus Luteum Extract. J. C. Hirst, Philadelphia.
18 Indications for Cesarean Section. G. M. Boyd, Philadelphia.
19 Rupture of Uterus During Labor; Report of Two Cases. J. H. Telfair, New York.

20 Ultraviolet Rays in Gynecology; Report of Cases. A. M. Hellman, New York.
21 Four Cases of Extra-Uterine Pregnancy. J. Saliba, Elizabeth City, N. C.
22 Emptying Uterus in Early Stages of Pregnancy by Aid of Pituitary Extract; Report of Two Cases. J. L. Bubis, Cleveland.
23 *Preliminary Report of Routine Wassermann Reaction in Hospital Obstetrics. L. J. J. Commiskey, Brooklyn.
24 Case of Exstrophy of Bladder. L. A. Martel, Washington, D. C.
25 How May We Make Labor More Comfortable? G. Baughman, Richmond, Va.

17. **Control of Symptoms of Surgical Menopause by Corpus Luteum Extract.**—In the surgical menopause Hirst's results with the mouth administration of corpus luteum extract have been distinctly disappointing; intramuscularly by hypodermic gratifying results were obtained as is shown by the report on five cases in which it was used.

23. **Wassermann Reaction in Obstetrics.**—Commiskey's report is based on routine Wassermann tests in 1,822 mothers and 1,074 new-born infants; the larger number of mothers being due to the fact that the women were subjected to the test eleven months earlier than the infants as a routine and also that some women left the institution undelivered. Of the mothers tested, 145 or 8 per cent. were positive, 26 or 1.4 per cent. were doubtful and 11 negatives or 0.6 per cent. had infants whose reactions were either positive or doubtful. Only 26 or 18 per cent. of these women with positive reports gave any history or showed any signs of syphilis; leaving 119 or 82 per cent. with positive reports, who showed neither clinical evidence nor gave a history of the disease. Half of the positive mothers were multiparae and half primiparae. Thirty-three or 25 per cent. received treatment to a greater or less extent. Thirty-three per cent. of the multiparae had previous stillbirths, premature labors, miscarriages or abortions, but this is only 3 per cent. greater than an equal number of negative mothers. As to the particular pregnancy during which the women were examined: 80 per cent. of them went to full term, 75 per cent. of the untreated ones doing so and 81 per cent. of the treated cases, showing a possible 6 per cent. gained by the treatment. A percentage of nine plus had premature labor, 7 per cent. of the untreated and 10 per cent. of the treated. Nine per cent. of the women miscarried, an equal percentage of treated and untreated cases. Of the women, 15 per cent. had stillborn infants, 19 per cent. of the treated cases and 13 per cent. of the untreated cases. Comparing the clinical course of the 145 Wassermann positive mothers with an approximately equal number (200) consecutive cases in which the mother and child were negative, it was seen that there was little effect on the pregnancy except in the production of an increased number of stillbirths. Regarding the 1,074 Wassermanns on new-born infants, 33 or 3.2 per cent. were positive. The 145 positive mothers had 25 or 17 per cent. positive children.

American Journal of Physiology, Baltimore

April, XL, No. 2, pp. 153-371

26 *Effect of Castration on Weight of Pituitary Body and Other Glands of Internal Secretion in Rabbit. A. E. Livingston, Ithaca, N. Y.
27 Factors Affecting Coagulation Time of Blood. Influence of Certain Metals and Electric Current. N. S. Stern, Boston.
28 Vasomotor Summations. E. G. Martin and P. G. Stiles, Boston.
29 Movements of Mitral Cusps in Relation to Cardiac Cycle. A. L. Dean, Jr., New York.
30 Physiology of Mammalian Auricle. Auricular Myogram and Auricular Systole. C. J. Wiggers, New York.
31 Protection of String Galvanometer Circuits Against External Electric Disturbances. H. B. Williams, New York.
32 Action of Potassium Cyanid on Oxygen Consumption. L. H. Hyman, Chicago.
33 Increase of Permeability to Water Following Normal and Artificial Activation in Sea-Urchin Eggs. R. S. Lillie, Woods Hole, Mass.
34 Cardiodynamics in Heart Block as Affected by Auricular Systole, Auricular Fibrillation and Stimulation of Vagus Nerve. R. A. Gesell, St. Louis.
35 *Physiology of Stomach. Secretion of Gastric Juice in Cases of Gastric and Duodenal Ulcers. L. L. J. Hardt, Chicago.
36 *Bile Pigment Metabolism. Bile Pigment Output and Diet Studies. C. W. Hooper and G. H. Whipple, San Francisco.
37 *Id. Bile Pigment Output Influenced by Diet. G. H. Whipple and C. W. Hooper, San Francisco.
38 *Influence of Hypotensive Gland Extracts on Vasomotor Irritability. A. F. Beifeld, H. Wheelon and C. R. Lovellete, Chicago.
39 Origin of Antibodies of Lymph. F. C. Becht and A. B. Luckhardt, Chicago.

26. **Effect of Castration on Glands of Internal Secretion.**—From the results of the experiments described by Livingston the following conclusions for the rabbit are drawn. There is no constant sex difference in the weight of the hypophysis. Neither males nor females show a constant hypophyseal hypertrophy following castration or spaying. The females may be regarded as showing a more constant response by the hypophysis after spaying than is to be seen among the males after castration. From the curves of growth corresponding to each group there is a constant relationship between the rate of increase in body weight and the response of the hypophysis to castration or spaying. There is less hypertrophy of the hypophysis in those groups which show an increase in rate of growth. In groups in which no effect can be shown on the rate of growth a distinct hypertrophy of the hypophysis is constant though in no case is it very marked. A marked atrophy of the uterus follows removal of the ovaries from females. No change in the weight of the heart or the kidneys can be attributed to castration or spaying. No change can be demonstrated in the thyroid with the possible exception of a moderate decrease in males after castration. The suprarenals show no marked effect. In the males a tendency toward enlargement follows castration, which does not appear after spaying females. No conclusions were reached as to the effect of castration or spaying on the thymus, or pineal gland.

35. **Gastric Juice in Gastric and Duodenal Ulcers.**—Hardt found that feeding excessive amounts of desiccated thyroid depresses the rate of secretion and concentration of acidity in the gastric juice during the first hour after feeding. The results of Steinharter ("The production of acute ulcers in rabbits by intravenous injection of *B. coli*") were not confirmed by Hardt. Gastric and duodenal ulcers were produced in dogs by intravenous injections of streptococci isolated from gastric ulcers in man, dog, sheep and cattle. This is a confirmation of the work of Rosenow. Hardt claims that there is no "hyperacidity" in the gastric juice following the experimental production of gastric ulcers. Gastric and duodenal ulcers may or may not result in a continuous hypersecretion together with a hypersecretion after eating.

36. **Bile Pigment Output and Diet Studies.**—The authors' experiences with bile fistula dogs indicate that bile is essential for the life of the animal on a mixed diet of meat, bones and bread. If bile is wholly excluded from the intestinal tract, the dog loses ground steadily, shows intestinal disorders accompanied by blood in the feces, and usually within a month dies with peculiar symptoms of intoxication. Fresh pig's bile given by stomach tube and dried ox bile given in capsules will sometimes improve the condition but not to any notable degree. Fresh dog's bile mixed with the food will sometimes give good results if the dog will eat the mixture. Given by stomach tube the results are not favorable. Cooked liver added to a mixed diet usually keeps the dog in good healthy condition for a long period of time. At present the authors are not prepared to explain this observation, but the fact may have some clinical application. Under very uniform conditions the bile pigment excretion may form a pretty uniform curve, and experimental variations under such circumstances will have some value. The usual average bile pigment excretion amounts to 1 milligram per pound body weight per six hours.

37. **Bile Pigment Output Influenced by Diet.**—Whipple and Hooper believe established the fact that carbohydrates stimulate the excretion of bile pigments in bile fistula dogs, but a convincing explanation of this phenomenon they cannot bring forward at this time. More work is required. It is at least possible that the liver has some constructive ability in pigment formation which can be modified by diet. It is also possible that the liver may be concerned in building up other body pigments than bilirubin—for example, hemoglobin.

38. **Effect of Gland Extracts on Vasomotor Irritability.**—Various pancreas and salivary gland preparations administered by the authors caused a vascular depression. This was associated with a decreased reaction to epinephrin, but with

an augmented reaction to nicotin. Such extracts cause therefore, an augmented irritability of the vasoconstrictor centers.

Archives of Internal Medicine, Chicago

April, XVII, No. 4, pp. 459-590

40 *Studies of Edema in Pneumonia. M. E. Maver and A. B. Schwartz, Chicago.
41 *Hypoglycemia and Progressive Muscular Dystrophy. R. H. McCrudden and C. S. Sargent, Boston.
42 *Clinical Study of Delayed Gastric Emptying. I. H. Levy and J. L. Kantor, Syracuse, N. Y.
43 *Studies of Biologic Methods for Diagnosis of Tuberculosis. J. Bronfenbrenner, M. H. Kahn, J. Rockman and M. Kahn, Pittsburgh.
44 *Two Additional Cases of Miliary Tuberculosis of Placenta With Clinically Latent Tuberculosis of Mother. C. V. Weller, Ann Arbor, Mich.
45 Progressive Lipodystrophy; Report of Case. C. Herrman, New York.
46 *Study of Buffer Value of Blood. R. L. Levy, Baltimore, and L. G. Rowntree, Minneapolis.
47 Adaptation of Erlanger Capsule to Any Polygraph for Obtaining Arterial Pulse Records. R. H. Halsey, New York.
48 *Study of Blood in Hemophilia. S. H. Hurwitz and W. P. Lucas, San Francisco.
49 *Significance of Uric Acid, Urea and Creatinin of Blood in Nephritis. V. C. Myers, M. S. Fine and W. G. Lough, New York.
50 *Effects of Suprarenal Feeding. R. G. Hoskins and A. D. Hoskins, Chicago.

40. **Edema in Pneumonia.**—Having invariably found the presence of some edema in pneumonia by means of the elastometer, Maver and Schwartz undertook to correlate, if possible, these findings with chlorid determinations of the blood and urine. In twenty-two observations of the chlorids in the blood serum, made in seven cases of lobar pneumonia, their results confirm those of McLean regarding the diminished concentration of chlorin in the plasma during the height of the fever, with increased concentration after crisis. While the increased concentration of NaCl in the blood occurs almost immediately after crisis, there does not seem to be a corresponding change in the elasticity of the tissues, as determined on the wrist by the elastometer. The return to a normal concentration of NaCl in the blood serum usually occurs long before the elasticity curve has reached a normal state.

41. **Hypoglycemia and Progressive Muscular Dystrophy.**—McCrudden and Sargent made urine and blood examinations in a typical case of progressive muscular dystrophy which was being studied clinically. The creatinin excretion was normal; large amounts of creatin were found in the urine; the ammonia excretion was low; there was no evidence of acidosis; the amount of sugar in the blood was low; the cholesterin content of the blood was low. A relationship between sugar content of the blood and ingestion of food suggested the possibility of a decreased power to store glycogen. Treatment which increased the glucose and cholesterin content in the blood led to improvement in the clinical condition.

42. **Delayed Gastric Emptying.**—The immediate causes of delayed gastric emptying and their relative frequency according to Levy and Kantor are: (*a*) spasm of pylorus in 58.8 per cent. of the cases, (*b*) obstruction at pylorus in 22.2 per cent., (*c*) atony of stomach in 17 per cent. The conditions most commonly predisposing to or associated with delayed gastric emptying are: (*a*) ulcer in about 50 per cent. of the cases, (*b* and *c*) autointoxication and gastric cancer, each 7.5 per cent., (*d*) ptosis with atony, 7 per cent., (*e*) cholelithiasis, 3.7 per cent. The causes of delayed gastric emptying are located in the stomach in 75.3 per cent. of the cases, elsewhere in the digestive tract in 10.3 per cent., and outside the digestive tract in 13.4 per cent.

43. **Biologic Method for Diagnosis of Tuberculosis.**—Attempts to study further the value of biologic methods of diagnosis of tuberculosis led the authors to the following conclusions: Different samples of tuberculin of Besredka, though apparently identical in the mode of their preparation, may differ among themselves in their specific values. The most striking variation is in the amount of lipins contained in tuberculin. It is necessary to free each sample of tuberculin of all its lipin fraction before using such tuberculin for the complement deviation test. It seems that different samples of tuberculin may vary also qualitatively. The variation rests apparently on the fact of the existence of strain specificity in the antibody. The existence of strain specificity in tuberculosis may explain why the results obtained by different investigators in the complement deviation test for diagnosis of tuberculosis vary so much. The tuberculin of Besredka seems to give the best results in diagnosis by the complement deviation test. Even though the test is positive in a certain number of clinically nontuberculous cases, the reaction seems to be specific. In at least 87 per cent. of such cases the fixation was obtained also with one or more preparations of tuberculosis other than that of Besredka.

44. **Placental Tuberculosis.**—The two cases of placental tuberculosis reported by Weller were discovered in the routine microscopic examination of the placentas. The mothers did not have clinically recognizable lesions at the time of delivery, but in one case an active pulmonary tuberculosis later developed. The other case became latent after the birth of the child. These cases are offered as additional proof of the fact that even an incipient and unrecognizable tuberculosis may be so influenced by pregnancy as to cause a placental, and therefore potentially a fetal, miliary tuberculosis.

46. **Buffer Value of Blood.**—This paper by Levy and Rowntree is based on a study of sixty-five cases, involving considerably more than 100 buffer determinations. The method used consists in adding increasing amounts of fiftieth-normal hydrochloric acid and fiftieth-normal sodium hydroxid solution to equal quantities of blood and observing the resulting changes in hydrogen ion concentration by means of the dialysis indicator method. The results are expressed in terms of cubic centimeters of fiftieth normal acid or alkali per 2 c.c. of blood. In certain cases with normal pH of the blood, but showing a tendency toward the development of an acidosis (as evidenced, for example, by lowered alveolar carbon dioxid tension), the buffer values were diminished. The loss of buffer for alkali was far more striking and frequent than for acid, and was often associated with lowered alveolar carbon dioxid tension. As a result of therapy, especially the use of alkali, the buffer values in some instances returned to normal. In a series of cases of acidosis the average buffer values were found to be markedly diminished, particularly during the stage in which the pH of the blood was abnormally high. Normal buffer values may be encountered, however, in the presence of a true acidosis. Coincident with clinical improvement following treatment, particularly intensive alkali therapy, both pH and buffer values approximated or became normal in several cases. It was not possible to supply buffer to the blood by the injection of phosphate mixtures. By the intravenous injection of third-normal hydrochloric acid and 4 per cent. sodium bicarbonate solution into dogs, conditions of acidosis and alkalosis were produced which were inconstantly accompanied by changes in the buffer values of the blood.

48. **Blood in Hemophilia.**—The essential defect of hemophilic blood, which accounts for its delayed coagulability, Hurwitz and Lucas believe is a diminution of the circulating prothrombin. The other two fibrin factors, antithrombin and fibrinogen, are present in normal amounts. Wide fluctuations may be observed in the prothrombin content of hemophilic plasma both during the hemorrhagic and interhemorrhagic periods. No definite relationship can be shown to exist between the extent of the prothrombin deficiency and the gravity of the clinical symptoms. Oral, subcutaneous and intramuscular injections of kephalin have no effect on the disease process. Kephalin applied locally to the bleeding wounds of hemophilics brings hemorrhage to an early arrest. Because of its great hemostatic properties and its thermostability kephalin deserves an important place in the treatment of bleeding from external wounds. Suberythema doses of Roentgen rays do not influence the disease process: no alteration was noted either in the coagulability of the blood or in the prothrombin-antithrombin balance.

49. **Significance of Uric Acid, Urea and Creatinin of Blood in Nephritis.**—A series of thirty cases are recorded by the authors with high values for the uric acid of the blood, but without a corresponding retention of urea and creatinin. These cases were apparently suffering from "early interstitial nephritis," probably secondary in many instances to other systemic disturbances. Since the blood urea was not markedly increased or the phthalein output markedly decreased (in certain cases), it is believed that the uric acid was of considerable value as an early diagnostic test. The possibility is further suggested that a retention of uric acid may be earlier evidence of renal impairment of an interstitial type than the classical tests of albuminuria and cylindruria.

50. **Effects of Suprarenal Feeding.**—Forty-five white rats were fed desiccated suprarenal by the Hoskins' for varying periods from two to nine weeks. Twenty-six animals from the same litters were kept as controls. The rate of growth and the weights of various glands were determined in each series. No differences in the two series could be detected in kidneys, heart, hypophysis, thyroid, thymus or suprarenals. The spleens of the experimental series were somewhat smaller than those of the controls, but highly variable. The ovaries in the few cases studied were larger in the experimental series. The testes (twenty-six experimental, thirteen control) showed hypertrophy. These results in confirmation of clinical evidence indicate that the suprarenals exert a stimulating effect on the testes.

Annals of Surgery, Philadelphia

April, LXIII, No. 4, pp. 385-512

51 Acidosis in Surgery. G. W. Quillian, Atlanta, Ga.
52 Case of Pulsating Exophthalmos. G. B. Rhodes, Cincinnati.
53 Operation for Removing Gallbladder. J. B. Deaver, Philadelphia.
54 Acute Operative Dilatation of Stomach; Report of Fatal Case. B. J. Lee, New York.
55 Inefficacy of Pyloric Exclusion by Fascial Bands. H. Neuhof, New York.
56 *Postoperative Intestinal Obstruction. C. L. Gibson, New York.
57 Prevention of Fecal Fistula in Suppurative Appendicitis. D. Guthrie, Sayre, Pa.
58 *Clinical and Pathologic Observations on Giant-Cell Medullary Bone Tumors. F. R. Haussling and H. S. Martland, Newark, N. J.
59 *Transplantation of Bone in Ununited Fractures of Shaft of Humerus. M. S. Henderson, Rochester, Minn.
60 *Osteomyelitis Involving Hip Joint. J. E. Moore, Minneapolis.
61 Legal Responsibility to Surgeon and Practitioner Which Use of Roentgen-Ray Involves. E. Eliot, Jr., New York.

56. **Postoperative Intestinal Obstruction.**—Gibson holds that in paralytic ileus enterostomy should not be resorted to until a trial with pituitary extract has been made. He has used it frequently since 1912 and is firmly convinced of its value. He administers it hypodermatically in the muscles, giving 1 c.c. and repeating every hour up to three doses; subsequent doses two hours apart. He has never given more than five doses in twenty-four hours. For cases of the milder variety the second injection usually brings about the passage of gas in considerable quantities and often causes a spontaneous stool. The effects may be reenforced by a suitable enema.

58. **Giant-Cell Medullary Bone Tumors.**—Two cases are cited by Haussling and Martland. The first patient presented multiple expansive bone tumors, the clinical picture resembling that of multiple myeloma; the microscopic appearance of the tumors, however, was that of the so-called medullary or myelogenous giant-cell sarcoma of chronic nonsuppurative osteomyelitis of Barrie. The tumors are too numerous to consider trauma as an etiologic factor. Although the disease is undoubtedly not arrested, as is conclusively shown by the appearance of new lesions, there has been up to the present time no tendency for the growths to break through their bony covering, or infiltrate the surrounding soft parts or form metastases. Nor has the patient's general health deteriorated. The second patient presents an expansive tumor involving the lower end of the right tibia, of over eight years' duration, which on microscopic examination shows the typical picture of the so-called medullary or myelogenous giant-cell sarcoma. The authors are of the opinion that the clinical history, operative findings and microscopic appearance undoubtedly classify this case under the heading of chronic nonsuppurative osteomyelitis (Barrie), synonyms, giant-cell sarcoma, myeloma and giant-cell tumor (Bloodgood). While there has been a fairly active and very persistent tendency to local recurrence, metastases have not occurred, and the man after a period of eight and one-half years is still in excellent health without pain and able to do his work.

59. **Bone Transplant in Ununited Fractures of Humerus.**—Henderson reports ten cases. He emphasizes the value of the inlay method as being greater than that of the intramedullary method and insists that the transplant must be as large as is practical (6 inches by ½ inch or larger). It must extend well past the thinned decalcified ends into the hard, healthy bone beyond. The short transplant is held responsible for failures. Adequate postoperative fixation is essential. A split plaster-of-Paris spica prepared a few days before the operation is fastened on with adhesive strips immediately after the operation is completed, thus eliminating the difficulty of applying the spica and the danger of disturbing the graft thereby. Two or three weeks later when the wound has healed and the stitches have been removed, a new cast is applied with the patient sitting up. Henderson thinks it is an advantage to remove the bone graft from the flat internal surface of the tibia. The strong crest of the bone is left to perform its important weight bearing function. The patient may be allowed to walk in from twelve to fourteen days. At this time the blood clot filling in the bony defect has become sufficiently organized so that no hemorrhages will occur on the use of the leg.

60 Abstracted in THE JOURNAL, Jan. 15, 1916, p. 218.

Arizona Medical Journal, Phoenix

March, IV, No. 3, pp. 1-16

62 Arizona State Laboratory. C. A. Meserve, Tucson.
63 Do We Need More Health Legislation? E. S. Godfrey, Phoenix.
64 Social Aspects of Tuberculosis Problem in Arizona. A. H. Williams, Phoenix.

Boston Medical and Surgical Journal

April 13, CLXXIV, No. 15, pp. 519-554

65 Progress of Nursing. W. H. Merrill, Lawrence.
66 What Shall Be Attitude of Public Toward Recovered Insane Patient? H. C. Solomon, Boston.
67 Relation of Syphilis to Mental Disease. S. T. Orton, Philadelphia.
68 After-Care of Mental Patients. (To be continued.) H. P. Frost, Dorchester.
69 Results of Roentgenoscopic Examination of Stomach and Duodenum in Seven Hundred and Thirty Cases. G. W. Holmes, Boston.
70 *Incidence of Visceroptosis. I. H. Levy and J. L. Kantor, Syracuse, N. Y.

70. **Incidence of Visceroptosis.**—In a series of 898 patients with digestive symptoms, examined roentgenographically by Levy and Kantor the incidence of gastroptosis was 64.4 per cent. Marked gastroptosis occurred in 46.4 per cent. of the cases. The condition was only slightly more frequent in women than in men, the proportion being about 6 to 5. The condition occurred more often in individuals under 40 years than in those 40 or over, and this relationship held for both sexes. Gastroptosis was more frequent in single than in married women, in the proportion of about 13 to 12. Practically all single women over 40 were ptotic. In addition to gastroptosis, these patients had ptosis of other organs (demonstrable by Roentgen ray or palpation) as follows: liver 77 per cent., right kidney 30 per cent., heart 22 per cent., both kidneys 3 per cent., spleen 1 to 2 per cent. This clinical study, Levy and Kantor says does not support the view that visceroptosis can be ascribed to improper garments, the occurrence of pregnancy, or to any other incidental cause. It seems that the condition is intimately related to the structure of the body, and probably arises from some congenital predisposition.

Bulletin of Lying-In Hospital of City of New York

April, X, No. 3, pp. 131-208

71 Obstetrics as It Was; as It Is; as It Should Be. E. G. Zinke, Cincinnati.
72 Spina Bifida in New-Born. J. A. Harrar, New York.
73 Open-Air Treatment in Surgery. J. W. Markoe, New York.
74 Case of B. Aerogenes Capsulatus Sepsis. M. Rosensohn, New York.
75 Two Cases of Accidental Hemorrhage. L. A. Wing, New York.
76 *Unusual Case of Rupture of Uterus. J. W. Markoe, New York.

77 *Case of Spontaneous Rupture of Uterus. R. McPherson, New York.
78 Report of Work Done in Babies' Class From October 1, 1914, to September 30, 1915. E. L. Coolidge, New York.
79 *Abderhalden Reaction. D. D. Van Slyke, M. Vinograd-Villchur and J. R. Losee, New York.
80 *Report of Two Unusual Complications of Pregnancy. R. McPherson, New York.
81 Report for 1915 of Pathologic Department of Lying-In Hospital. J. R. Losee, New York.

76. **Rupture of Uterus.**—In the case reported by Markoe the uterus seems to have held the pregnancy for about five months and then without any definite history of particular strain, the entire fundus of the uterus ruptured with the result that the fetus in its membranes passed into the general peritoneal cavity without any rupture of the membranes. From the history of the case it would seem that the fetus remained alive for some considerable time afterward.

77. **Spontaneous Rupture of Uterus.**—McPherson's patient five months pregnant was seized with sudden sharp abdominal pain and felt somewhat faint. There was no accident, fall, blow or other emergency to account for these symptoms. Although feeling rather uncomfortable she continued about her work. Late that night she felt much worse and continued to get worse until on the evening of the next day she was in extreme shock. Under the very lightest kind of ether anesthesia, the abdomen was opened, and the cavity found entirely filled with blood. A five months fetus was free in the cavity and attached by the umbilical cord to the placenta which was still in the uterus. The uterus was ruptured transversely across the fundus.

79. **Abderhalden Reaction.**—Practically every serum examined by the authors, whether from a pregnant or a nonpregnant individual, showed protein digestion when incubated with placenta tissue prepared according to Abderhalden. There is a tendency for the results from the pregnant serum to average somewhat higher than those from nonpregnant. The difference, even in the averages, is not great, however; and the individual variations of both pregnant and nonpregnant serums make the results from both overlap so completely as to render the reaction, even with quantitative technic, absolutely indecisive for either positive or negative diagnosis of pregnancy.

80. **Complications of Pregnancy.**—The first case cited by McPherson was one of intestinal obstruction from bands; the second was a chronic uterine wall abscess from suture material.

Georgia Medical Association Journal, Augusta

April, V, No. 12, pp. 179-203

82 Iris Injuries and Anomalies. C. Stockard, Atlanta.
83 Plea for Prevention of Infant Blindness and Protest Against Optometry. A. Mason, Waycross.
84 Some Points in Technic of Submucous Resection of Nasal Septum. N. Craig, Atlanta.
85 Modification of Sluder Method of Tonsil Enucleation. W. Lapat, Savannah.
86 Why Are Refraction of Eyes and Prescribing of Lenses Medical Problem? R. P. Cox, Rome.
87 Empyema of Maxillary Antrum. J. M. Smith, Valdosta.
88 Tonsils. S. T. Carswell, Brunswick.
89 Physician as Factor in Social Welfare From Viewpoint of Laity. G. A. Cornell, Douglas.
90 Few Suggestions From Registered Nurse. R. R. Kuhn, Waycross.

Journal of Biological Chemistry, Baltimore

April, XXIV, No. 4, pp. 423-543

91 *Occurrence and Determination of Creatin in Urine. F. H. McCrudden and C. S. Sargent, Boston.
92 Certain Data on Content of Cholesterol and Fatty Substances in Blood; Modification of Colorimetric Method for Estimating Cholesterol. F. A. Csonka, Pittsburgh.
93 Determination of Creatin in Muscle. L. Baumann and H. M. Hines, Iowa City, Iowa.
94 Some Indicators From Animal Tissues. W. J. Crozier.
95 Fat Assimilation. W. R. Bloor, Boston.
96 *Origin of Nitrates in Urine. H. H. Mitchell, H. A. Shonle and H. S. Grindley, Urbana, Ill.
97 Dietary Factors Operating in Production of Polyneuritis. E. V. McCollum and C. Kennedy, Madison, Wis.
98 Colorimetric Method for Estimation of Amino-Acid a-Nitrogen. Application to Hydrolysis of Proteins by Pancreatic Enzymes. V. J. Harding and R. M. MacLean, Montreal.
99 Improved Gas Chain Methods of Determining Hydrogen Ion Concentration in Blood. J. F. McClendon, Minneapolis.
100 Some Color Reactions for Indole and Scatole. V. E. Nelson, Madison, Wis.
101 Indole in Cheese. V. E. Nelson, Madison, Wis.

91. **Creatin in Urine.**—One important observation made by McCrudden and Sargent is that human urine contains a substance or substances other than creatin which can give a color reaction similar to that of creatinin on boiling with picric acid, and which, therefore, may appear in the results as creatin.

96. **Nitrates in Urine.**—The experiments described by the authors indicate in most cases beyond reasonable doubt, that the animal body may excrete in the urine more nitrate than is ingested in the food. There are two possible explanations of the source of the excess of nitrate appearing in the urine over the nitrate ingested with the food. It is conceivable that the nitric and nitrous acids in the air may gain access to the blood in the lungs and ultimately find their way to the urine. Some investigations by Lassar, confirmed by Spiegel, indicate however, that nitric acid fumes are irrespirable. Furthermore, assuming a perfect permeability of the lungs to nitric acid, the quantity in which it occurs in the air seems entirely too small to account for the discrepancies observed. The other possible explanation is that the body tissues are able to produce nitrates from unoxidized nitrogenous radicles. The production of nitrates by animal tissues is unique in being the only well established instance of the oxidation of nitrogen, aside from the conversion of nitrites to nitrates, which is apparently a reversible reaction. Further investigation is promised.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

March, VIII, No. 3, pp. 137-173

102 *Effect of Drugs on Inflammation of Frog's Mesentery. Y. Ikeda, Cambridge.
103 Segmental Action of Strychnin. H. McGuigan, R. W. Keeton and L. H. Sloan, Chicago.
104 *Pharmacology of Ureter. Action of Epinephrin, Ergotoxin and of Nicotin. D. I. Macht, Baltimore.
105 Rôle of Liver in Acute Polycythemia. Effect of Epinephrin and Emotional Stimuli on Red Corpuscle Content of Blood in Rabbits. P. D. Lamson, Baltimore.

102. **Effect of Drugs on Frog's Mesentery.**—The results of Ikeda's experiences may be summarized as follows: Drugs producing marked inhibition of leukocytic migration: quinin, atophan, mercury perchlorid, arsenic, antipyrin, morphin, chloral, calcium chlorid. Drugs producing only slight inhibition: ethylhydrocuprein, urethane. Drugs producing no inhibition: Cinchonin, scopolamin, atropin, strophanthin, colchicum, sodium salicylate, magnesium sulphate. Certain drugs, as quinin and atophan, when combined show a synergetic action in inhibiting the migration of leukocytes.

104. **Action of Epinephrin, Ergotoxin and Nicotin on Ureter.**—The effect of drugs on the ureter was studied by Macht by the use of longitudinal strips and rings of the ureters of pigs and oxen. He found that epinephrin increases the rate of ureteral contractions and the tonus of the ureter, larger doses inducing a condition of tonic spasm or tetanus. The action of epinephrin is reversed after previous administration of ergotoxin. The effect of nicotin on the ureter is a primary stimulating and secondary paralysis, and is a strong corroboration of the existence of ganglion cells. The same results were obtained with the human ureter from a case of nephrectomy.

Medical Record, New York

April 15, LXXXIX, No. 16, pp. 677-718

106 Significance of Hemorrhage in Operations on Nose and Throat. F. J. Quinlan, New York.
107 Arterial Degeneration. C. E. Nammack, New York.
108 Practical Scheme to Improve Physique of Americans. R. C. Newton, Montclair, N. J.
109 *Method of Transfusion of Blood Treated With Sodium Citrate. G. A. Rueck, New York.
110 Case of Polycythemia Vera. G. A. Friedman, New York.
111 Significance of Hemorrhoids. A. H. May, Buffalo.
112 *Dilated Heart as Sign of Early Apical Pulmonary Tuberculosis. M. Grossman, Brooklyn.

109. **Method of Transfusion of Blood Treated with Sodium Citrate.**—The blood of a human donor is kept liquid by Rueck by means of a 2 per cent. sodium citrate solution and this mixture is injected intravenously into a recipient. The method is described in detail.

112. **Dilated Heart as Sign of Early Pulmonary Tuberculosis.**—Grossman claims to have noticed in apparently strong, able-bodied individuals, where there was as yet no sign of the general physical condition being below par, that one of the earliest signs, in many cases long before the lungs showed the onset of apical pulmonary tuberculosis, was a diffuseness of the apex beat, meaning commencing dilatation of the heart. This dilatation of the heart may, under proper hygienic and tonic treatment, become so improved as to be almost absent in arrested first stage conditions. Here it would show the tubercle bacilli were not active or had been gotten under the control. But no sooner does the tuberculous process become active again than dilatation of the heart becomes apparent once more, and continues throughout the case.

Missouri State Medical Association Journal, St. Louis

April, XIII, No. 4, pp. 149-196

113 Deafness Due to Syphilis. S. E. Roberts, Kansas City.
114 New Public Health. S. J. Crumbine, Topeka, Kan.
115 Drug Addiction. M. W. Hoge, St. Louis.
116 Diagnosis of Disease, Greatest Necessity of Age. J. H. Walton, Windsor.
117 Empyema. B. A. Poorman, Kansas City.
118 Unilateral Renal Hematuria. C. M. Nicholson, St. Louis.
119 Brain Tumor; Hemangio-Endothelioma; Decompression; Removal of Tumor; Cure. W. B. Burns, Memphis, Tenn.
120 Case of Large Echinococcus Cyst. W. Kerwin, St. Louis.
121 Roentgen Bismuth Injection of Rectal Fistula. E. H. Skinner, Kansas City.

New York Medical Journal

April 8, CIII, No. 15, pp. 673-720

122 Serology and Diagnosis of Syphilis. M. L. Heidingsfeld, Cincinnati.
123 Thymic Disturbance in Adult. G. H. Hoxie, Kansas City, Mo.
124 Colloidal Solutions of Silicic Acid. S. P. Kramer, Cincinnati.
125 Unresolved Pneumonia. A. J. Quimby and W. A. Quimby, New York.
126 Management of Breech Presentation. J. C. Applegate, Philadelphia.
127 Malingerer. D. H. Williams, Chicago.
128 Beriberi. S. B. Doyle, New York.
129 Is Plastic Surgery Lost Art? J. W. Kennedy, Philadelphia.

April 15, No. 16, pp. 721-768

130 Public Health Laboratories. R. G. Perkins, Cleveland.
131 Pyelocystitis and Metastatic Abscesses Following Tonsillitis. H. B. Mills and G. A. Sõwell, Philadelphia.
132 Blood Letting (Leeches) in Uremia. B. Robinson, New York.
133 Tuberculin in Surgical Tuberculosis. E. Bonime, New York.
134 Episiotomy. G. L. Brodhead, New York.
135 Malnutrition. I. S. Wile, New York.
136 Anaphylactic Conditions of Respiratory Tract. A. C. Howe, New York.
137 Physiology in Consideration of Constipation. A. C. Geyser, New York.
138 Disputed Point in Appendicitis. C. U. Collins, Peoria, Ill.

Ophthalmic Record, Chicago

April, XXV, No. 4, pp. 163-216

139 Fundamentals of Achromatism. C. F. Prentice, New York.
140 Pasteurization in Treatment of Corneal Ulcers. A. E. Prince, Springfield.
141 New Operation for Retention of Movable Stump as Substitute for Enucleation. V. Ray, Cincinnati.
142 Conjuctivitis and Keratitis From Poison Ivy. J. W. Sherer, Kansas City, Mo.
143 Spectacle Glass Injury. H. S. Gradle, Chicago.
144 Sympathetic Uveitis. R. O'Connor, Oakland, Calif.
145 Loaf Sugar Used to Lacerate Trachoma Granules at Same Time Serving as Sponge. F. G. Murphy, Mason City, Iowa.
146 Trachoma. S. R. Edwards, Calumet, Mich.

Public Health Journal, Toronto

April, VII, No. 4, pp. 175-228

147 Personal Preparedness for Disease Prevention. D. B. Armstrong, New York.
148 Practicing Physician; His Relation to Public Health Administration. J. W. Trask, Washington, D. C.
149 Field Work of Ontario District Medical Officer of Health. R. E. Wodehouse, Fort William, Ont.
150 Child Welfare. J. Thomson, Edinburgh.
151 Four Ages of Woman. J. Martin.
152 Sanitary Conditions in Rural Schools. T. J. McNally, Ontario.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Lancet, London

March 25, I, No. 4830, pp. 657-710

1 *Nervous and Other Medical Disorders as Seen at an Eye Hospital. J. Taylor.
2 *Camp Jaundice and Paratyphoid Epidemic at Dardanelles. A. Sarrailhé and J. Clunet.
3 Pain in Renal and Vesical Lesions. (To be continued.) D. Newman.
4 Aluminium Splint for Fractured Humerus. C. Mackenzie.
5 Food Economics in Relation to War. H. Campbell.
6 Case of Hermaphroditism. J. E. Middlemiss.
7 Appendicitis with Cecum on Left Side. G. W. Christie.
8 Case of Ectopic Gestation and Appendicitis. F. M. Neild.

1. **Nervous Disorders as Seen at an Eye Hospital.**—Taylor analyzed cases he saw at Moorfields during the last five years. Two hundred and thirty-three patients came on account of failing vision associated with optic atrophy. In over 200 of these cases there were definite signs of tabes or general paralysis of the insane, sometimes only the Argyll Robertson pupil—in one case on one side only, sometimes only the absence of knee jerks and lightning pains, sometimes both these conditions, occasionally gastric crises. In only two was ataxy complained of, and in only one was it very marked. Signs indicative of general paralysis were present in only three or four cases. In a few cases the optic atrophy was the result of retrobulbar neuritis, and in many of these signs indicative of disseminated sclerosis were present. In another class of cases there was evidence of lesion at the optic chiasma. In a few the condition is a toxic one—the result of tobacco, often with the addition of alcohol. There were three cases of family optic atrophy. There were sixty-two cases of ocular paralysis; in by far the largest number the third nerve was affected. In a few the sixth only was affected. Taylor saw thirteen cases of myasthenia gravis causing diplopia also cases in which the diplopia was caused by Graves' disease. He is convinced that diplopia is more frequent in Graves' disease than is generally recognized. Cases of hemianopia, retinitis, retinal embolism and thrombosis and optic neuritis are also cited.

2. **Camp Jaundice at Dardanelles.**—Typical bacteria which presented somewhat discordant reactions on lead agar and neutral red, and especially turned the Petruschky medium, while otherwise they behaved like paratyphoid B, were discovered by Sarrailhé and Clunet in cases of so-called camp jaundice. Their appearance coincides with the appearance of the jaundice, and, in fact, in almost all jaundice patients and those affected by febrile gastric derangement during the epidemic of jaundice the authors find that variety of atypical germs which approaches sometimes the paratyphoid A, sometimes the paratyphoid B, but presents certain characteristics in presence of serum reactions. They call them provisionally, for the sake of brevity, by the name of paratyphoid, species Dardanellensis, or species D. A further study of this germ is being made.

Archives de Médecine des Enfants, Paris

March, XIX, No. 3, pp. 113-168

9 Defective Development and Debility in Infants. (Des hypotrophies et des cachexies des nourrissons.) Nobécourt.
10 *Congenital Muscular Atony; Two Cases. (Deux cas de maladie d' Oppenheim dont un avec compte rendu anatomo-pathologique.) S. de Villa (Rome).
11 Blue Disease in Child With Inherited Syphilis. (Maladie bleue d' origine syphilitique.) E. Jeanselme.

10. **Oppenheim's Disease.**—De Villa's two cases confirm in every respect Concetti's conclusions based on sixty-eight cases of congenital atony of muscles, including sixteen examined postmortem. The cause is evidently arrested or retarded development, during intra-uterine existence, of the cells of the anterior cornua of the spinal cord. The lesions may extend beyond these cells and may even invade the brain, the cerebellum, peripheral nerves and muscles, but the tendency is toward progressive improvement. The asthenia of the organs of respiration, however, usually entails an early fatal termination.

Bulletin de l'Académie de Médecine, Paris

March 14, LXXV, No. 11, pp. 287-320

12 *Gold Plate to Close Defect in Skull. (Cas d'obturation d'une large perte de substance de la voute cranienne par une plaque d'or. Examen anatomique au bout de 10 ans.) Capitan and Delair.
13 Bacteriologic Findings in Stools of Soldiers Returning From the Dardanelles. (Résultats de l'analyse bactériologique des selles dans 217 cas de dysenterie provenant du corps expéditionnaire d'Orient.) Tribondeau and Fichet.
14 *Walled-Off Cerebrospinal Meningitis. (Les méningites cérébro-spinales cloisonnées et leur traitement par la trépanation et l'injection de sérum intraventriculaire.) M. Labbé, Zislin and Cavaillon.

12. **Gold Plate in Skull for Ten Years.**—Capitan and Delair found a large gold plate in the skull at necropsy of a soldier who had died with symptoms of meningitis. The plate was 0.0013 mm. thick and weighed 47 gm. when first inserted. It was studded with 3 mm. holes and the scalp had grown into these holes during the ten years the plate had been worn, and there were slight adhesions between the dura and pia in the region. The gold had evidently been perfectly tolerated, and bone tissue had grown out to its edges and over them to some extent. A small arm had been soldered to each corner of the plate, to hold it in place, but they warn that supports of this kind should never be allowed to rest in any of the sutures of the skull. Gold-plated silver plates are being used in the present war, and many men provided with them have returned to active service at the front. The secret of success they think is to fit the plate into the gap, not let it rest on the bone around.

14. **Treatment of Walled-Off Meningitis.**—Labbé and his co-workers refer to the cases of epidemic cerebrospinal meningitis in which the subarachnoid space has been walled off and hence the antiserum injected intraspinally does not get into the skull. When this is the case, and symptoms of meningitis persist although the spinal fluid has cleared up under serotherapy, they trephine and inject the antiserum directly into the ventricle. In the case of a child of 11, the fluid in the ventricle was turbid and abounded in meningococci while the spinal fluid was clear and contained only a few dead meningococci. They injected into the ventricle 20 c.c. of serum and four days later 8 c.c. The injections were borne without disturbance and progressive improvement followed, presaging complete recovery but an unforeseen syncope proved fatal. The case confirms the independence of the cranial from the spinal disease. This should be suspected when brain symptoms follow on a group of spinal symptoms. Done earlier, and perhaps on both sides, the treatment applied might have saved the patient.

Journal de Médecine de Bordeaux

March, LXXXVII, No. 5, pp. 87-98

15 Sanatoriums for Tuberculous Soldiers. (Sur l'hospitalisation des militaires tuberculeux.) C. Jolly.
16 Gunshot and Shell Wounds of the Larynx and Trachea. G. Canuyt.

Berliner klinische Wochenschrift

February 14, LIII, No. 6, pp. 129-152

17 Treatment of Itching. (Beseitigung des Juckens.) P. G. Unna. To be continued.
18 Kidney Disturbances in Soldiers on Active Duty. (Ueber Nierenerkrankungen bei Kriegsteilnehmern.) A. Albu and E. Schlesinger.
19 Surgery of Wounded Trunk Vessels. (Meine Erfahrungen in der Kriegschirurgie der grossen Blutgefässstämme.) H. Küttner.
20 Rupture of Finger Tendon From Gonorrheal Tendovaginitis. (Ruptur der gemeinsamen Fingerstrecksehne im Gefolge von gonorrhoischer Tendovaginitis.) E. Melchior.
21 The War Literature on Internal Medicine. P. Reckzeh. To be continued.

Correspondenz-Blatt für Schweizer Aerzte, Basel

March 18, XLVI, No. 12, pp. 353-384

22 Medical Impressions of the Care of the Sick and Wounded in Modern War. (Militärärztliche Studienreise nach Innsbruck.) K. Wehrlin; (Kriegschirurgische Erfahrungen aus einem Rotkreuzspital in Lyon.) C. A. Pettavel. Concluded.

Deutsche medizinische Wochenschrift, Berlin

February 3, XLII, No. 5, pp. 121-152

23 *Convulsions in Children. (Behandlung der Krämpfe im Kindesalter.) L. Tobler. Concluded.
24 Meningitis After Fracture of Base of Skull. (Pneumokokken- und Meningokokken- Meningitis nach Schädelbasisfraktur.) P. Schmidt.
25 Treatment After Wounds of the Chest. (Die Nachbehandlung der Brustkorbverletzungen.) L. Hofbauer.
26 Infectious Jaundice. (Zur Aetiologie der Weil'schen Krankheit.) A. Weil; (Ditto.) Hübener and Reiter.
27 Injury of the Ear From Explosions. (Verletzungen des Gehörorgans, mit bes. Berücksichtigung der Detonationswirkung.) E. Lehmann.
28 Extraction With Magnet of Fragment of Shell in Pleural Cavity. (Extraktion eines Granatsplitters aus der Pleurahöhle mittels des Elektromagneten.) W. Burk.
29 *The Wassermann Test Applied With Larger Amounts of Serum. (Ueber den Ausfall der Wassermann Reaction bei Verwendung grösserer Serummengen.) B. Fischer.
30 *By-Effects of Pyelography. (Zur Frage der Nebenwirkungen bei der Pyelographie.) T. Fahr.
31 Experiences With Gunshot and Shell Wounds of Nervous System. (Ergebnisse der bisherigen Kriegserfahrungen auf dem Gebiete des Nervensystems.) E. Tobias. Concluded.
32 Organization of Medical School Inspection in Germany. (Die Schularztorganisation in Deutschland.) K. Süpffe. Concluded in No. 6.

23. **Spasms in Children.**—This was the last article written by Tobler before his recent death. He points out the permanent injury liable to become manifest later in life when children have convulsions early. The greatest progress in treatment has come from the recognition of the fact that spasms and convulsions are merely a symptom. The underlying causes may be widely diverse, but if they can be traced to spasmophilia the outlook is favorable for effectual treatment. When of this type, the spasms may be tonic, persisting contractures (carpopedal spasms), general clonic convulsions (eclampsia), or spasm of the glottis. The latter is peculiarly characteristic, as also the "paw" or "writer's hand" or "accoucheur's hand," the persisting spasm of the hand or foot. The tonic rigid contracture most often takes the form of adduction of the upper arms, the elbow and wrist strongly flexed, the hands in pronation, the legs extended stiff, the feet in talipes equinus varus. General convulsions from spasmophilia have no characteristic features. It may induce spastic conditions in the viscera, spasm of the sphincters, of the swallowing or ocular muscles, or spasm of the bronchial musculature or heart, inducing dangerous symptoms. Latent spasmophilia can be detected by the mechanical overexcitability of the peripheral motor nerves, electric overexcitability of the motor trunk nerves, and the Trousseau phenomenon.

Spasmophilia is extremely rare in breast fed babies. It seems to be restricted to the period from the second to the third year of life, and to the winter and early spring months. Overfed, doughy or rachitic children are most affected. Only a third of the children with spasmophilia grow up normally; another third are mentally backward, and the others show signs of a substandard nervous system, and hence treatment and prophylaxis are of the greatest importance. At the signs of latent tetany, stridulous inspiration from a tendency to spasm of the glottis, or signs of rachitis, the diet should be regulated to ward off spasmophilia, changing to breast feeding if possible and, if not, reducing the amount of cow's milk to three-fourths liter between the ninth and twelfth months or to one-half liter during the second year, if the child is otherwise healthy. Well nourished, plump children with convulsions had better be given castor oil and all feeding stopped for twelve or twenty-four hours. Saccharin-sweetened tea is the only beverage allowed. When feeding is resumed, salt is used scantily, and he prefers a soup made from chopped carrots, instead of a meat broth. Small tentative amounts of milk can be resumed in from five to eight days; the milk sometimes aggravates the spasmophilia; if so, milk had better be dropped completely for a few weeks for children over six months old. The older the infants, the better one can manage to keep the diet well balanced.

The deleterious substances in the milk seem to be in the whey. This explains the success of "albumin milk," as this contains only half the natural amount of whey to the liter. The casein can be given in the form of white cheese, but every effort should be made to insure breast feeding in these cases, and the more imperatively, the younger the child. The dietetic measures should be supplemented with phosphorus-cod liver oil, freshly made up. He orders 0.01 parts phosphorus with cod liver oil to 100 parts, giving one half to one

teaspoonful after meals. In addition a course of calcium chlorid is given, to a total of 8 or 14 gm. of the crystallized calcium chlorid, in a 10 per cent. solution, beginning with 1 or 2 gm. at one or two hour intervals and then rapidly reducing the dose. The taste can be disguised with an aromatic ammonia preparation. The overexcitability of the nervous system yields most readily to a combination of calcium chlorid and phosphorus-cod liver oil. The calcium seems to modify the tendency to spasmophilia. It has no apparent effect on spasms of other origin. The chemical kinship between calcium and magnesium suggested that the latter might prove useful in spasmophilia, and it has proved superior when rapid action is desired. But chloral answers this purpose and is preferable for several reasons, especially when given by the rectum. With spasm of the glottis, death is usually due to heart failure. Intensive stimulation of the skin may relieve in mild cases, sprinkling or dashing cool water over the body, slapping the skin with a wet towel or with the hand, introducing the finger into the throat, or pulling out the tongue—any of these may start the inspiration. If there is the characteristic wheezing during expiration, artificial respiration may prove useful, but otherwise not. It is almost impossible to overcome by force the contraction of the glottis, so that intubation is scarcely practicable.

For convulsions from other causes than spasmophilia, the cause may be some peripheral mechanical irritation, from a pin, a string around a toe, helminths, phimosis, tumor or abscess in the brain or ear. Lumbar puncture may remove the element of pressure, and venesection may relieve uremic convulsions. If epilepsy or tetanus is involved, treatment must be proportionally like that of adults, except that experience warns against intraspinal magnesium treatment. In conclusion Tobler remarks that even infants may have spasms for which hysteria is responsible. Treatment should be by suggestion adapted to the young child's mind.

29. **The Wassermann Reaction with Large Amounts of Serum.**—Fischer has applied the Wassermann test to 1,300 specimens of blood, using with parallel technic 0.1 c.c. and 0.4 c.c. of the serum. He found that sometimes the reaction, negative with the smaller amount, was positive with the larger amount, and hence warns that a negative response should not be accepted as decisive until the technic with the larger amount has been given a trial. He regards a negative reaction at 0.4 c.c. after a systematic course of treatment as justifying suspension of treatment, but not when the reaction turns abruptly negative soon after starting treatment.

30. **By-Effects of Pyelography.**—Fahr had a patient die in a few hours after injection of a silver salt into the pelvis of the left kidney. The necropsy findings testify anew that there is no need to fear general intoxication from a silver salt injected into the kidney pelvis, but that if so much fluid is injected as to distend the pelvis, and it is retained for any time, the kidney tissues suffer injury and necrosis is liable to follow. The patient was a man of 34 and there was evidently injury from the general anesthesia, from kyphoscoliosis impeding the heart action, and from the shock from catheterizing the ureter which was obstructed by a stone at its upper end, in addition to the tendency to necrosis at various points in the kidney—these different factors evidently combined to induce the fatality.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 16, XXXVII, No. 22, pp. 337-352

33 Preferable Operative Technic for Hydrocele. (Intorno la scelta del metodo operativo nella cura dell'idrocele.) N. Federici.

March 19, No. 23, pp. 353-368

34 *Chorea as an Industrial Disease. (La corea di origine tossica professionale.) C. Rubino.

34. **Chorea as an Occupational Affection.**—Rubino reports a case of chronic chorea for five years in a typesetter who had presented other symptoms of lead poisoning. The choreic movements were generalized and kept up during sleep and there was also intentional tremor. In another case the chorea had developed in a girl of 17 employed in a tobacco factory. She is sometimes able to control the choreic movements and there is no intentional tremor. The chorea came on as the menses were arrested, and Rubino argues that this and other features of the case indicate that some upset of the balance in the glands of internal secretion is responsible for the chorea. He has had a number of experiences which suggest that the tonsils have an internal secretion of some kind. If this is confirmed by others, it would explain the benefit from tonsillectomy in chorea, which Archibald has reported. The mortality among workers in the local cigar factories is higher than in the rest of the populace, and the proportion succumbing to tuberculosis is particularly high, as also the percentage of cardiovascular lesions, especially of the cerebral arteries. Of sixty women in the insane asylum of that district, nearly 25 per cent. had been employed in a tobacco factory Peripheral neuritis, especially brachial and sciatic, and hysteria are unusually prevalent among the girls and women in the tobacco factory, but menstruation averages normally.

Policlinico, Rome

March 19, XXIII, No. 12, pp. 357-388

35 *Resistance to Heat of Non-Spore Forming Bacteria in Milk. (Sulla termoresistenza di batteri non sporigeni nel latte.) C. Gorini.

March, Surgical Section, No. 3, pp. 65-96

36 Experimental Research on Malta Fever Infection. (Sulle alterazioni sperimentali da micrococco melitense.) R. Brancati.

37 Functioning of Omentum With Strangulated Hernia. (La funzione del grande epiploon negli strozzamenti erniari dell'intestino.) I. Scalone. To be continued.

35. **Resistance to Heat of Bacteria in Milk.**—Gorini has noted a number of instances in which non-spore forming bacteria demonstrated a remarkable power of resistance to the application of heat. He is chief of the bacteriologic laboratory of the Agricultural College at Milan, and he found that this heat-resisting property is accidental and only occasional, being neither common to all the specimens nor permanent. It seems to be due to some special protecting influence from a coating of casein on the bacteria, probably result of some biochemical process on the part of the bacteria.

Riforma Medica, Naples

January 24, XXXII, No. 4, pp. 85-112

38 *Early Diagnosis of Cancer of the Stomach. V. Patella. Commenced in No. 1.

January 31, No. 5, pp. 113-140

39 Three-Day Fever at Naples. (La febbre dei tre giorni a Napoli.) A. Montefusco.

40 Suppurating Hematoma in the Iliac Fossa. L. della Valle.

February 7, No. 6, pp. 141-168

41 Volvulus of Hour-Glass Stomach. (Volvulo gastrico in stomaco a clessidra per malformazione congenita.) O. Barbacci.

42 *Action of Quinin in the Body in Connection With Production of Uro-Erythrin. N. Pane.

43 Pathogenesis of Deformities. (Patogenesi ed etiologia generale delle deformita del corpo umano.) C. Romano. To be continued.

38. **Early Diagnosis of Gastric Ulcer.**—Patella refers to five cases of stenosis of the pylorus due to a tuberculous lesion. There was no occult bleeding, and the age was between 20 and 40, which aided in excluding cancer. He says, that of the 140 cases of gastric syphilis he has found on record, the chemistry of gastric secretion was studied in only eleven and in nine of these there was anacidity. Achylia was evident in the cases examined microscopically. With gastric cancer, the secretion of pepsin may continue long after that of hydrochloric acid has been lost. He reviews all the diagnostic signs that have been proposed in recent years for differentiation of gastric cancer, saying that none of the serologic reactions are very reliable and none are at all instructive in the early stages. Digestive disturbances in the previously healthy, which prove rebellious to appropriate dietary measures, and loss of weight are the most suggestive signs of malignant disease in the stomach. Study of the case for two or three weeks will generally settle the question, if it is not settled befo e by discovery of occult bleeding. The biologic diagnosis of cancer in an earlier stage is beyond our present methods of examination.

42. **Influence of Quinin on Production of Uro-Erythrin.**—Pane noticed an unusual amount of uro-erythrin in the urine of some patients who had been taking quinin for several

months, continuing it now and then after their malaria had been conquered. Each day after the quinin had been taken the urine contained, transiently, large amounts of this red pigment in the sediment. He found the same phenomenon marked in rabbits given quinin.

Brazil-Medico, Rio de Janeiro

February 26, XXX, No. 9, pp. 65-72

45 Regulation of the Breathing Movements. (Sobre a regulação da forma dos movimentos inspiratorios.) M. O. de Almeida.
46 Alimentary Hygiene. (Noções de hygiene alimentar.) G. Armbrust. Commenced in No. 1.

March 4, No. 10, pp. 73-80

47 *Prophylaxis and Treatment of Malaria. (Impaludismo.) F. Soledade. To be continued.

47. **Prophylaxis of Malaria.**—Soledade presents the official report on his attempts to clean up a certain poverty-stricken valley district in Brazil where scarcely any one is exempt from malaria. He had to educate the public in the advantages of quinin treatment, and spread the news of the opportunity for treatment he was offering. The total of the malaria patients treated was 953. The number of children with malaria parasites in the peripheral blood confirms that the children are the main source of perpetuation of the infection. He gave the quinin at meals, the daily dosage ranging from 0.4 to 1 gm. and never had any mishaps from these doses.

Russkiy Vrach, Petrograd

XV, No. 4, pp. 73-96

48 *Pseudo-Aneurysms. (Po povodu t. naz. lozhnikh aneurizm.) V. A. Oppel. Commenced in No. 31.
49 *Symptomatic Importance of Contracture of the Wrist and Terminal Phalanges. (K semiotikie ruchnoi kisti. Griffe nogtevikh phalang.) S. N. Davidenkoff.
50 *The Theory of Anaphylactic Shock. I. L. Krichefsky. Commenced in No. 31.

No. 5, pp. 97-120

51 Classifying Nomenclature of Central Nervous System Lesions Following Trauma. L. O. Darkshevitch.
52 *Extraction of Projectiles from the Chest Cavity; Twelve Cases. V. M. Mintz.
53 Chronic Interstitial Nephritis in a Child Simulating a Tumor. (Sluchai "opukholevidnago" chronicheskago mezhutochnago nephrita u rebenka.) E. N. Vinteler.

No. 6, pp. 121-144

54 Influence of "Phosphorus-Albumin" on Growth of Bones. (Vliyanie phosphatnago bielka na rost i razvitie kostei.) B. I. Slovtzoff.
55 General Predisposition to Growth of Malignant Tumors. (Obshchee predraspolozhenie organizma k rostu v nem zlokachestvennikh novoobrazovanii.) V. G. Korenchefsky. Commenced in No. 4.
56 Red Cross Hospital in Odessa for Military Officers. K. I. Korovitzky. Commenced in No. 5.
57 *Auricular Fibrillation With Complete Heart Block and Automatic Activity of the Ventricles. (Yavlenie Fredericq'a u chelovieka.) N. I. Leporsky. Commenced in No. 4.

48. **Pseudo-Aneurysms.**—Oppel relates that war wounds of large blood vessels frequently lead to formation of the so-called pseudo-aneurysm, but as the typical signs of the latter—circumscribed tumor, visible pulsation, thrills perceptible to the hand—are sometimes absent, these false aneurysms often escape detection. One of the causes for this is also the fact that they may present the clinical picture of a phlegmon though auscultation may reveal a murmur and thus help the correct diagnosis. In other cases too much attention is paid to the neighboring wounds (for instance, of the joint), and the pseudo-aneurysm is not thought of, or it is taken for a circumscribed abscess. Yet it is important to diagnose the pseudo-aneurysm in order to treat it surgically and thus obviate cardiovascular complications and severe pain due to the pressure on the large nerves. Operative treatment is not to be recommended in every case, and when indicated it should not be undertaken too early, not before four or six weeks after the injury, or until the aneurysm is completely formed and the surrounding hemorrhages have become absorbed, or when signs of infection are present. The cases should be individualized, the condition of the neighboring organs, bones and muscles being of great importance for the character of the operation (to remove or to leave the injured limb, etc.). The treatment consisted accordingly in ligation of the arteries, suturing of the wounded arteries and closing of the opening, excision of the aneurysm sac and, what is very important, simultaneous ligation of the vein. He thinks that ligating the vein, creating the so-called reduced blood circulation, saves the limb from gangrene, while the suturing of the vessels is not absolutely necessary, and is not always a safe procedure. However, excision or ligation of the central portion of dilated veins may be of great benefit for the blood circulation.

49. **Contracture of Wrist and Terminal Phalanges.**—Davidenkoff emphasizes the differential diagnostic importance of flexion contracture of the end phalanges of from two to five fingers, while the middle phalanges are extended and the basal either flexed or extended. It is typical for infantile spastic paralysis and athetosis, and has also been noted in cases of lesions of the lenticular nucleus, analogous to Wilson's disease, and in paralysis agitans. It may be considered as a symptom of involvement of the so-called extrapyramidal tracts.

50. **Theory of Anaphylactic Shock.**—Krichefsky found that the juice of a plant, *Cotyledon schneideckeri,* precipitates animal serums as well as bacterial extracts, agglutinates bacteria and red blood cells, and destroys the latter. He also found that, injected into guinea-pigs and rabbits (v. jugularis), it produces the same symptoms and pathologic changes which are characteristic for anaphylactic shock. The clinical symptoms were clonic-tonic convulsions, followed by dyspnea, coma and death. In rabbits, opisthotonos was occasionally observed and, as a rule, exophthalmos. He describes in detail the pathologic changes which were identical with those found in fatal anaphylactic shock, except for the presence of cardiac thrombi which he has never found in the latter. He also found that there is a parallelism between the precipitating or agglutinating power of the juice of the cotyledon and its ability to cause anaphylactic shock. When the precipitating substances were removed from the juice, the latter invariably lost the ability of causing shock.

He explains the death of the animals from shock as the result of a change in the distribution of the colloids in the plasma, the result of the physico-chemical action of the active substances of the juice on the blood itself, as injection of cotyledon juice into the abdominal cavity of the guinea-pigs gave negative results. Hypodermic injections elicited the sign of Arthus. Krichefsky also found in his experiments a decrease of the proportion of complement. His theory of anaphylactic shock is thus that some cause induces a different distribution of the colloids in the plasma. This assumption explains, he asserts, all the phenomena observed in clinical anaphylactic shock and in the artificial shock he was able to induce at will in his animals with this plant juice. (The cotyledon genus of plants belongs to the houseleek family.)

52. **Projectiles in the Chest.**—Mintz successfully operated in five cases, removing a bullet in the throat, two in the pericardium, one in the lower portion of the left lung, and one in the pleural cavity. The foreign bodies had been in the chest as long as three, four and seven months before the operation. In all cases adhesions were found between the lungs, pleura, heart and pericardium, yet as the further course and the favorable results showed they do not form a contraindication to a successful operation. He gives brief histories of two cases of bullets in the lungs that were left without operation until suppuration developed in the pleural cavity, and the patients died notwithstanding a subsequent operation.

57. **Heart Block.**—Leporsky describes in detail a case of heart block, with complete dissociation in the action of the auricles and ventricles, caused by the lesion of His' bundle. The symptoms of dissociation were auricular fibrillation and ventricular automatism. The complete heart block was not of a temporary, but of a continuous character, being caused by a congenital cardiac lesion. As auricular fibrillation combined with complete heart block was first observed experimentally on animals by Fredericq, it would be appropriate, Leporsky thinks, to classify in a special group cases of heart disease with this syndrome of the combination of auricular fibrillation and complete heart block. It might be known as "Fredericq's phenomenon in man."